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MODELLING SURABAYA PEOPLE'S WILLINGNESS TO UTILIZE ECO-SANITARY PRODUCTS USING AGENT-BASED MODELING SIMULATION

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APPROVAL SHEET

MODELING SURABAYA PEOPLE'S WILLINGNESS TO UTILIZE ECO-SANITARY PRODUCTS USING AGENT-BASED MODELING SIMULATION

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ABSTRACT

Surabaya has a reckless record in terms of water usage resulting to the possibility of a water shortage by the year 2018. There are many research projects on improving the water management system, one of them is the Urban Water Bubble Model. The first and most basic phase is the city water supply and the most advanced phase is a water sensitive city. Water sensitive city is more promising since it invests in green water technologies, use of wastewater, and use of eco-sanitary products. The adoption of these strategies requires multiple stakeholders and their environments, which prompts the researchers to utilize an agent-based modeling approach. In this case, the agents discussed are households, government, PDAM, and stores. Experimental factors are given to the agent to as their willingness to change option. The scenarios generated will be further analyzed using Design of Experiments to understand which scenario is better and most suitable to be implemented in order to influence the decision-making of Surabaya citizens about the use of eco-sanitary products. The DOE approach that were used is Taguchi method and allow us to reduce the number of experiments. In conclusion, the two scheme shows almost the same result. . The result for scheme 1 is to affect the neighbors, high availability of product, only 5% increase of product price, have significant impact, 30% subsidy is given, information is easy to obtain, and free installation fees. The only difference with the second scheme is to neglect the neighboring factor.

Keywords: Water, Water Management, Agent-Based Modeling Simulation, Design of Experiment

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Surabaya, July 2017

Author

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CHAPTER 1
INTRODUCTION

This chapter explains the background, problem identification, purpose, benefits, limitations, and assumptions that are used in doing this final project. This chapter also explains about the literature systematics that used in this final project.

1.1 Background

This sub-chapter explains about the backgrounds that are used in doing the final project. Human population is increasing exponentially throughout the time. It is also followed by the increase of human needs and also its complexity of needs. Complex human needs make manufacturers compete to fulfill the human demand. Hence, the resources available are still limited. In Indonesia, based on the BPS (Badan Pusat Statistik) data the human population growth shows no sign of slowing down. Indonesia as a developing country has big population problem compared to developed country.

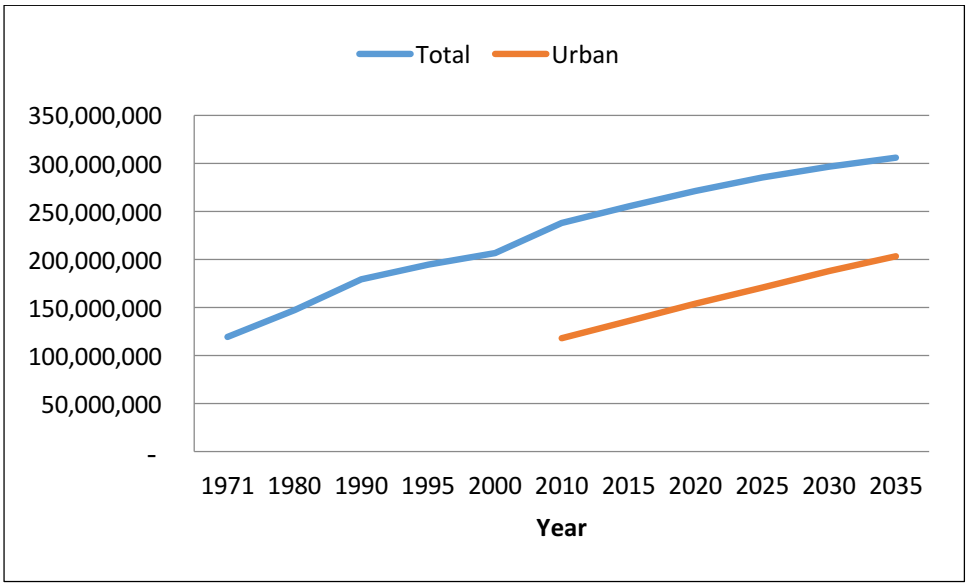

Figure 1.1 Indonesia Population Source: (BPS Indonesia, 2010)

Based on the Figure 1.1 we can see that the population in Indonesia is doubled from the year 1971 to the year 2010. Therefore, the basic need including

food and utilities in Indonesia is also doubled from the corresponding year. The BPS also forecasts the Indonesia population and it also shows an increasing trend by 250.000 to 300.000 yearly.

Indonesia also becomes one country that has economic growth of 5-6% per year based on BI (Bank Indonesia). The economic growth follows the increase of income per capita in Indonesia that leads to more living quality expectancy. Economic growth also becomes one of the causes that drive Indonesians to do urbanization activities. This shows that economic pressure also imminent towards more developed social services, water transport, transportation and energy systems for urban dwellers in Indonesia (Australia Indonesia Centre, 2015).

The areas within a country are divided several categories. Commonly, there are urban and rural areas. According to national geographic encyclopedia urban area is defined as the region surrounding a city, urban areas are very developed meaning there is a large density of household and other supportive infrastructures. Another area is rural which is the countryside meaning that it is the less developed area. United Nations (UN) in 2014 stated that 66% of world population is expected to live in cities compared to 30% in 1950. In Indonesia, it is already happening. BPS forecasts that the urban population in Indonesia is expected to be 66% by 2035 based on the Figure 1.1.

The percentage of Indonesian urban population is increasing exponentially compared to the year 1960 that is only 15%. The growth of Indonesian population especially in urban areas increases the pressure on the quality of life of urban dwellers (Castonguay, 2016). Surabaya is one of the urban areas in Indonesia.

Cities contain the highest human settlement density. Cities also continue to be a significant influential places for the living of the human population. Surabaya is the second largest city in Indonesia after Jakarta. Surabaya has a total area of 333.063 m2. Surabaya also become the capital of Jawa Timur (East Java), it is located in Eastern Java alongside the Madura strait. Surabaya has a population of more than 2.8 million based on 2010 census that makes Surabaya a metropolitan area. The green area in Surabaya is only 21% and are difficult to increase since the Surabaya area itself is already populous and may be decreasing aswell. The climate change also pressurizes the quality of life of Surabaya dwellers. Climate change

causes extensive drought and sometimes flood. Therefore, Surabaya city is most likely to suffer from drought and water crisis because of combined climate change and high population.

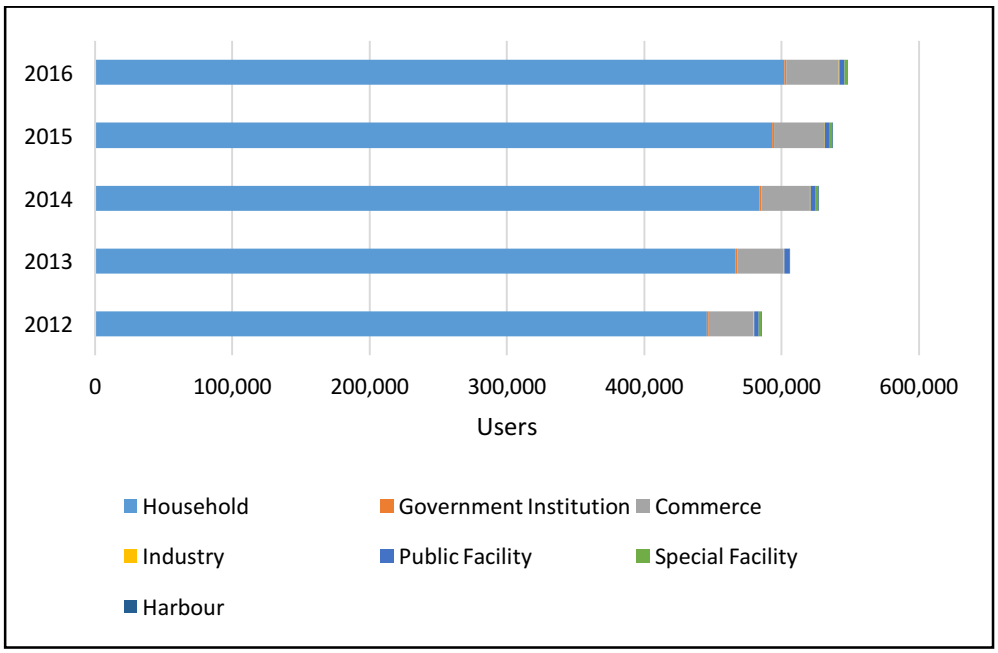

Figure 1.2 Surabaya PDAM Users (Source: pdam-sby.go.id)

PDAM Surabaya published a report of its consumption based on the users shown from Figure 1.3. The PDAM users are varied which are household, industry, harbor, government institution, commerce, public and special facilities. The number of users is significantly different. Most PDAM users are from household compared to the other PDAM users. This makes household users are a dominant influence throughout the water consumption in Surabaya city.

While the number of population and consumption are increasing, the water quality in East Java shows the otherwise. Based on Figure 1.4, the water quality index shows the decreasing trend in the last 5 years. The biggest decrease is from the year 2013 to the year 2014. The higher the water quality index results in the more excellent the water quality is. The water quality index itself has several variables in computing the end result including TDS, pH, etc. The water quality index calculation is derived from KepMEN LH no KEP 115/MENLH/2003.

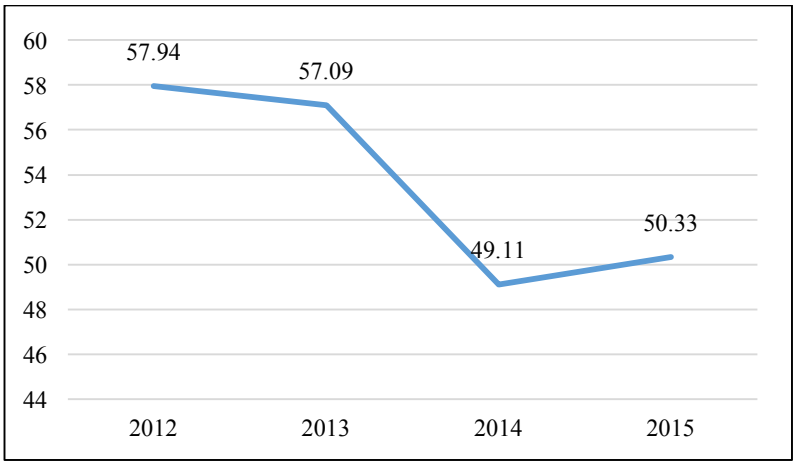

Figure 1.3 Water Quality Index Yearly (Source: Statistik Kementrian Lingkungan Hidup dan Perhutanan 2015)

Those data above resulting in a water crisis in several areas. Surabaya News (2018) also state that Surabaya will suffer from clean water crisis if Surabaya doesn't do water saving based on PDAM data. The result of Surabaya Swasembada PDAM shows that the average water consumption in Surabaya is 200 liters a day per person. It is categorized as above average since the normal value of water consumption is around 120 liters a day per person (Rusianto, 2017). It is important to maintain the availability of water in an area because water is central to the livability of an area. Livability encompasses the wellbeing of a community and compromises the many characteristics that make a location a place where people want to live. The concept of livability encapsulates the government's entire portfolio of responsibilities (Phillip Johnstone, 2012). The water crisis also leads to drought and floods elaborated in Figure 1.6 and Figure 1.7.

The number of urban dwellers increases the pressure of liveability in the corresponding area. Based on the BNPB data above, we can see that the number of flood and drought in east java has an increasing trend. While the flood and drought appearance may affect variety number of houses and impacted from low to high damage. We can see from the graph above that the number of houses damaged is varied depends on the place of the flood occurred and the length of the flood itself. The flood happens because the rainwater debit is really high and not much infrastructure to contain it. Floods can be contained or reduced by many ways. One of it is the implementation of water sensitive city infrastructure. The water sensitive

city infrastructure allows households to capture rainwater and also other green infrastructures to capture rainwater or stormwater, therefore reducing the water debit in the city.

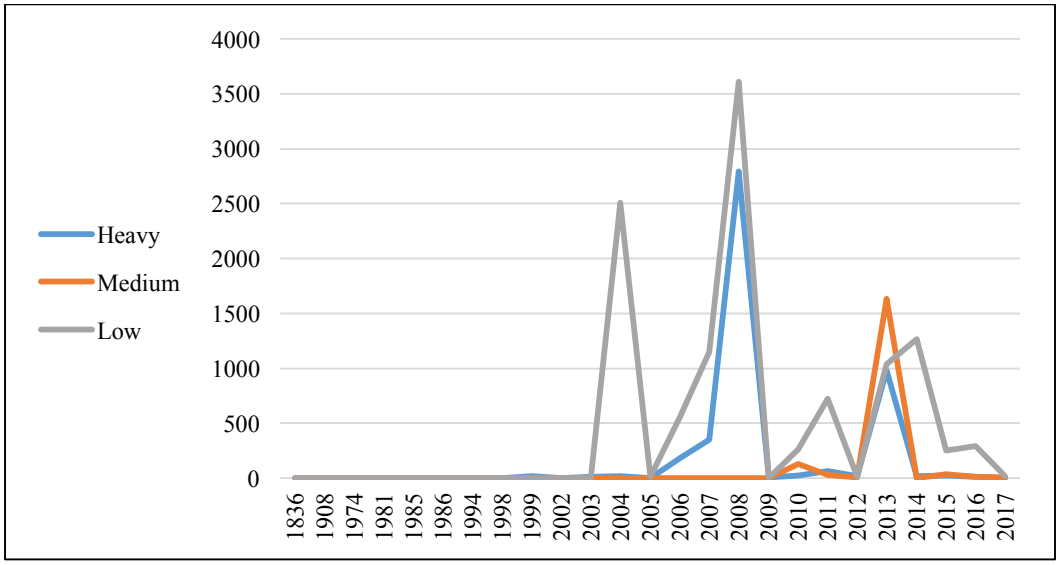

Figure 1.4 House Damaged Yearly Graph (Source: BNPB Indonesia)

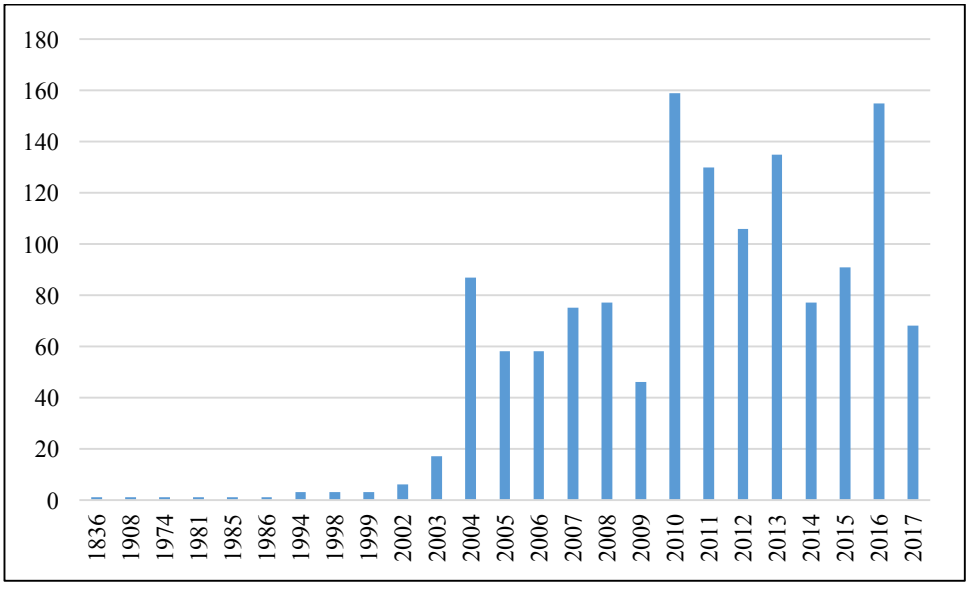

Figure 1.5 Number of Flood and Drought in East Java (Source: BNPB Indonesia)

There are many researches aiming to increase the liveability and resilience towards sustainable urban water management. They must face the challenge about how to ensure the sustainability and resilience of city and also its comprehensive

urban water system in terms of transition towards water sensitive city (Mahtuhah, 2017). Transition to water sensitive city become one of the solution for improving the water management. There are 6 phases to become water sensitive city (Brown, 2007). The first and basic phase is water supply city that is the one that Surabaya and most developing countries implement. Hence, water supply city only focus on the demand and supply of water in its city. Therefore, as explained from the data above, the number of demand and consumption per capita are increasing while the water supply is stagnan. In order to leapfrog towards water sensitive city, one of the criteria is the implementation of eco-sanitary products. It is important to do leapfrogging from water supply to water sensitive regardless the other phases because Surabaya hasn't heavily invested in single-purpose systems (Australia Indonesia Centre, 2015).

By shifting focus away from an ultimate end goal of sustainability to an ongoing process of enhancing resilience, managers, planners, council members, and residents can examine the community in its entirely, the interrelation between the various elements within a community, and how these elements collectively enhance community resilience and, ultimately, move a community towards sustainability (Callaghan et al., 2008).

Water sensitive city is more promising since it invests in green water technologies, low-energy water supply, use of wastewater and rainwater, and use of eco-sanitary products. The problem that are stated above is considered complex problem. Therefore, simulation approach is needed to be able to solve the problem stated. The adoption of eco-sanitary products requires multiple stakeholders and its environment makes the research utilize agent-based modeling approach. Agent-based modeling (ABM) integrates social, economical, and environmental evaluation of water services to assess the decision making of several agents (Castonguay, 2016). ABM allows the modeler to analyze the interaction between agents and also its interaction with the environment. ABM explores the behavior change of agents from a set of strategies or scenarios from the modeler itself. In this case, the agents are PDAM, city government, household, etc. Their interaction within each other and to the neighboring environment may affect the outcome of the use of eco-sanitary products. Therefore, ABM captures the emergent behavior.

The emergent behavior is affected by the agent's preference and its interaction between each other and to its surroundings or environment.

To model the water systems, we utilize a simulation tool for ABM that is Netlogo to simulate the agent's interaction and also to capture the emergent behavioral outcome of the model. NetLogo is widely used by modelers to simulate agent-based models and it is considered as the easiest tool to simulate ABM since it uses a simple programming language to construct the simulation model.

1.2 Problem Identification

The problem identification derived from the background above is the measure the willingness to utilize eco-sanitary products and how to influence their willingness to change using several strategies and scenarios.

1.3 Research Purpose

The purpose of this final project is as follows:

1. To measure Surabaya people's awareness for eco-sanitary products for water sensitive city.
2. To measure Surabaya people's willingness to utilize eco-sanitary products for water sensitive city.
3. To give a set of scenarios or strategies to influence the Surabaya people's willingness to utilize eco-sanitary products.
4. To evaluate the developed scenarios and strategies to influence the Surabaya people's willingness to utilize eco-sanitary products.

1.4 Research Benefits

The benefits of this final project is to obtain the best strategy to transition Surabaya water systems to become more water sensitive city through the implementation of eco-sanitary products using agent-based modelling.

1.5 Limitations

The limitations used for this final project research is as follows:

1. The data gathered are data in the year 2016 and 2017.

2. The eco-sanitary products discussed are water taps/faucets, urinal, toilet, showers, and jet washer.
3. Customer's brand loyalty is neglected.

1.6 Literature Systematics

Literature systematics shows the descriptive explanation of the final project research steps and chapters. The literature systematics of this final project research is as follows.

CHAPTER 1 INTRODUCTION

This chapter contains the research background, problem identification, purpose, benefits, limitation and assumptions, and the literature systematics that are used in making this final project research.

CHAPTER 2 LITERATURE REVIEW

This chapter contains the theories and methods that are used in making this final project research. The theories are derived from multiple sources including online and offline sources of literature.

CHAPTER 3 METHODOLOGY

The third chapter is methodology consist of the steps conducted in doing this final project research starting from problem identification until the conclusion and suggestion. Research methodology allows the writer to do the final project research to be more systematic.

CHAPTER 4 DATA COLLECTION AND ANALYSIS

This chapter consists of the collection of data that are needed in doing this final project research. This chapter also consists of data processing that is going to be analyzed further in the next chapters. This chapter mostly discuss the questionnaire recapitulation and its processing.

CHAPTER 5 SIMULATION MODELING

This chapter consists of the simulation modelling. The simulation modelling uses agent-based modeling simulation. The simulation modeling process starts from conceptual modeling, causal loop diagram, etc.

CHAPTER 6 SCNEARIO AND STRATEGY EVALUATION

This chapter consist of the scenario and strategy evaluation to influence the willingness to utilize eco-sanitary products. The scenario and strategy evaluation process using design of experiment methodology. The design of experiment process will evaluate each combination within factors and its level to find the factor that is significant effect on the use of eco-sanitary products.

CHAPTER 7 CONCLUSION AND SUGGESTION

This chapter consist of the conclusion derived from the previous analysis chapter corresponds to the final project research purpose. It also consists of suggestions for further work.

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CHAPTER 2
LITERATURE REVIEW

This chapter explains about the theories and methods that are used in making this final project research. The theories that will be elaborated further are water sensitive city, agent-based modelling, agent-based simulation, and eco-sanitary products.

2.1 Water System Design

As cities continue to become central to human activities and it is a significant influence to human lives, it is important to improve the livability of cities. The role of cities and its relationship has changed overtime, it is increasingly recognized that the form and system of cities have a major impact on communities (Johnstone, 2014). The term liveability pararells to the growing importance of cities and while the term invokes various ideas pertaining to quality of life or human wellbeing (Marshall, 2011). Each human has needs and wants to enhance its quality of life.

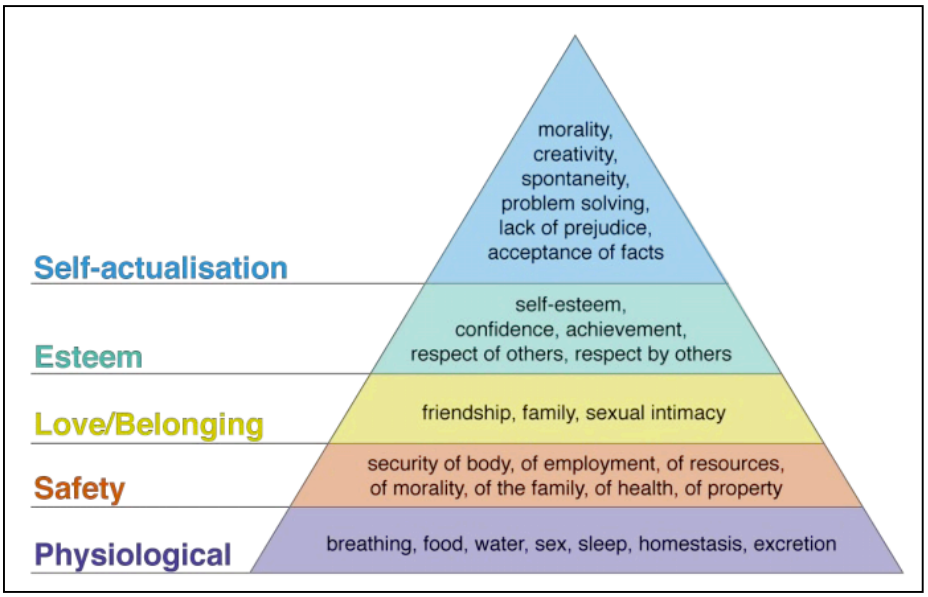

Figure 2.1 Maslow's Hierarchy of Human Needs (Source: Johnstone, 2014)

The most popular conceptualization of human needs is the Maslow's hierarchy above. Maslow explains that there are 4 levels of human needs. The most basic and fundamental need is the first level or the bottom of the pyramid that is the physiological needs such as breathing, food, water, and etc. The highest attainments of being it at the highest level that is self-actualisation such as creativity, morality, and etc. In enhancing the liveability of a city it is important to discover the needs and wants to such extent. The key to attribute to a more liveable city is sustainable urban development (UNEP, 2007). UNEP also explains that sustainability of city is not just a choice anymore, but it is a necessity. Brundtland Comission defined sustainable development as a development that does not comprome the needs of future generations. Therefore, the implementation of water sensitive city is one of solution to improve the liveability of humans and satisfy it needs.

As explained above, water is one of the primary needs for humans. Water is used for cleaning, drinking, and much more other purposes. That's why it is important that the policy makers and local authorities to support the water distribution and water system within an area or city. Water itself comes with many types. In this context the water that we will discuss are stormwater, wastewater, drinking water, and clean water. Stormwater or rainwater is water that harvested from the rain. Wastewater is water that is the output of a process for example dishwashing and shower wastewater. Drinking water is the water that is consumable and usable for humans for every day life. Clean water is water that is utilized for washing and cleaning. Water urban designs are varying and different in each country. Most of urban area in developed countries already implements drained city or waterways city (AIC 2016). Hence, urban areas in developing countries usually implements water supply city. The phases of water system design according to Brown (2007) is as follows

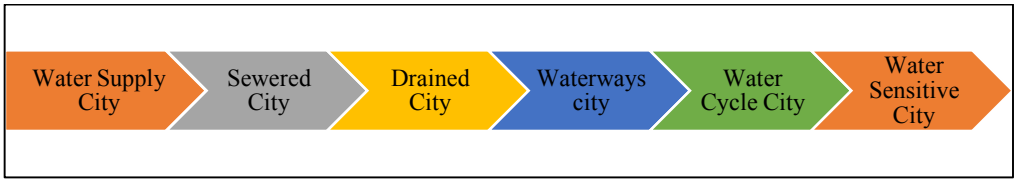

Figure 2.2 Water System Design Phases

In terms of water system design, there are six phases to become water sensitive city from the very basic water system design that is water supply city. In Surabaya, the water system design is diversed and no the same from one area to another. Water sensitive city is not only allowing cities to be more efficient in terms of economics but also improved social and environmental outcomes. Water sensitive design is an extention of IUWM (Integrated Urban Water Management) principles. The elements of IUWM are described in table 2.1.

Table 2.1 Generalised Elements of Integrated Urban Water Management

<table>
<tr>
<td rowspan="2">Sources of water for urban use

External
• Catchment / diversion to dams
• Seawater desalination
Internal
• Stormwater
• Rainwater
• Recovered from waste water</td>
<td>Urban water Infrastructure for Storage, treatment, transport

Water Supply
• Service Basins
• Distribution Networks
• Water Treatment and disinfection
Wastewater
• Reticulated Sewerage
• Local wastewater Treatment
Stormwater
• Piped Drainage
• Overland flow paths
• Bioretention
• Wetlands
• Ponds
• Detention Basins
• Aquifer Storage and recovery</td>
<td>Beneficial Use Indoor
• Direct consumption
• Hygiene
• Waste Disposal (toilet flushing)

Outdoor
• Gardent - Ornamental & Productive
• Swimming Pools & Spas

Commercial / Industrial
• Process Water etc
• Cooling
• Cleaning

Community
• Open Space, parklands, irrigation
• Sportsground
• Community garden
• Water features (ponds, fountain)
• Aquatic centers/facilities</td>
<td>Disposal (return to environment)

Treated wastewater discharge
Stormwater drainage discharge
Septic Tanks Leakage

Adverse Impacts
Flood – Surface Flows
Water supply – health risks
Wastewater (sewege & stormwater)
• Health Risk
• Environmental Risk (Pollution)</td>
</tr>
<tr>
<td colspan="3">Multipurpose stormwater infrastructure-use-disposal
• Green Roofs
• Infiltration Systems</td>
</tr>
</table>

Table 2.1 Generalised Elements of Integrated Urban Water Management

	• Permeable Pavings • Swale Drainage • Street Trees

Based on the Table 2.1 we can see the illustration of Integrated Urban Water Management. These include the sources of water, infrastructure to use, benefits, and the disposal. The Counsil of Australian Government (COAG) defines Water Sensitive Urban Design (WSUD) as the integration of urban planning with the management, protection, and conservation of the urban water cycle that ensures that urban water management is sensitive to natural hydrological and ecological processes. WSUD, as explained before extends the principles of IUWM that adds urban considerations such as urban amenity, public health, heat mitigation, urban microclimates, biodiversity, and ecological health of natural environments and receiving waters. We can achieve the benefits of IUWM by the pipes and other underground structures, while only through WSUD we can gain the additional benefits assossiated to the green infrastructure.

As explained before, Brown (2007) has identified the development of water system into six phases. Each phase represents the city state of water system as explained Figure 2.3.

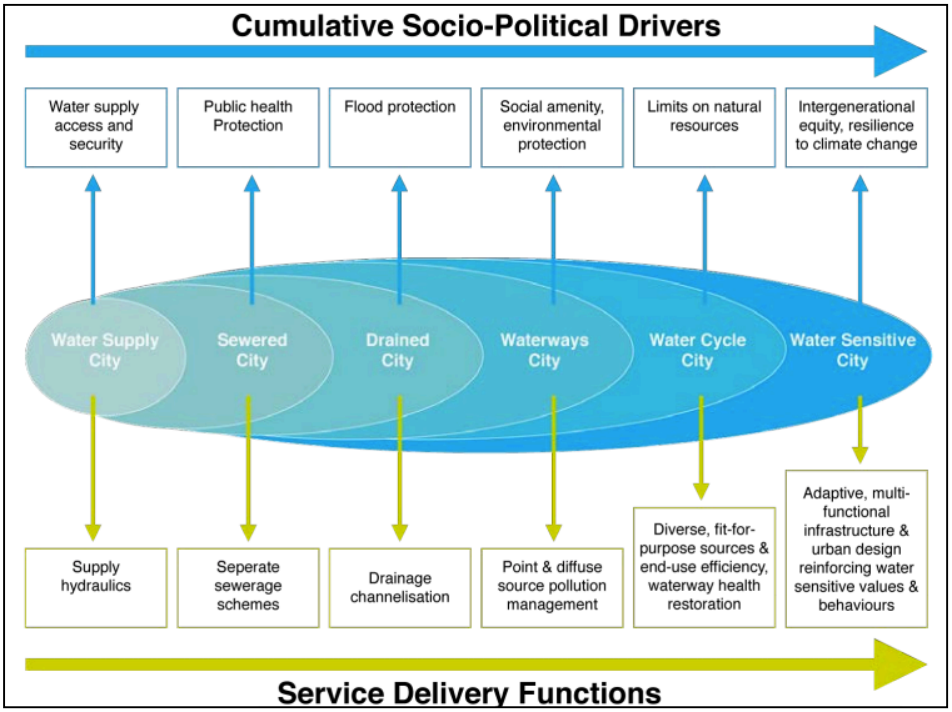

Figure 2.3 Urban Water City States (Source: Brown 2007)

The water supply city is characterized by supply hydraulics to establish and deliver safe and secure water supply. Water supply city is the most adopted water system since it is the most fundamental state of water system design. The sewered city focus on the public health by the separation of sewerage schemes. Drained city have characteristic of flood protection by the use of drainage channelization. The first three states of water system are most common used in developed cities. Hence, waterways city values the social and environmental amenity provided by urban waterways and also its assossiated infrastructure that focuses on pollution control and management. Water cycle city embeds the infrastructure of water supply, sewered, and drained city. This state was also influenced by local biophysical and social context, hence, there are significant opportunities to be integrated with waterways city. A water senstitive city is the extention of water cycle city to link with other aspects such as microclimate and social dimensions.

2.2 Eco-Sanitary Products

This chapter explains about the definition and examples of eco-sanitary products that are discussed in this final project. Sanitary according to UNESCO-IHE is facilities and services for the safe disposal of human excreta, maintenance of hygienic conditions through services such as garbage collection and wastewater disposal. Sanitation consist of two components which are hardware and software. Hardware sanitaries are facilities or objects that used in supporting the sanitation while software are the rules, regulation, and hygiene.

Sanitation are needed for two main objectives. The first objective is to protect and promote health. Sanitation keeps the people away from deseases that come from wastes and insects. Sanitation also protects people from waterborne deseases and ultimately improving the people's quality of life. The second objective is to protects the environment against pollution. Sanitation keeps the waste that carrying deseases away from the environment which makes the environment cleaner or no pollution. Sanitation also prevents the environment from contaiminated. The example of sanitary products are explained in the Table 2.2.

Table 2.2 Eco-Sanitary Products and Description

Product Figure	Description
	**Water Faucet / Water Tap** A water faucet is a device to control the release of liquid or water. It is commonly used in home appliances for example in bathroom or kitchen appliances. The water comes from the pipes installed to be used for the users. Some faucets have the ability to control the temperature and often delivers a mixture of water and air to save water.

Table 2.2 Eco-Sanitary Products and Description

Product Figure	Description
 	**Toilets** A toilet is an example of bathroom appliances. The device usually used to store and dispose of human urine and feces. There are two types of toilets that are commonly used. The first one is the western style toilet are toilet used in western countries while Indonesian style toilet commonly used in east asia. The difference is from the utilization procedure. The western toilet utilizes it while seating and Indonesian squat toilets utilize it while squatting.
	**Urinal** The urinal is basically having the same purpose with toilets but only for disposing human urines. It is commonly used by men since to utilize it, the user has to be in the standing position. It is usually put on the wall in public places such as malls, office, etc.
	**Shower** A shower is a device for a person to bathes under a spray of water. The water sprayed usually can be controlled in terms of its pressure and temperature. There are many types of shower that are available in stores.
	**Toilet Spray** Toilet spray are mostly used as the supporting device for western style toilets. Besides that, this device also commonly used in outdoor appliances to water the gardens. The water delivered usually has high pressure.

Hence, sanitary products can be divided into several categories. One of them are eco-sanitary products. Eco means that the device is eco-friendlier compared to the other devices. Eco in this case mostly in terms of water and energy saving.

Eco has a standard used in every country. Eco standars may differ from one country to another. Hence from the table 2.3 are the explanation of eco specification of each eco standards.

Table 2.3 Eco-Standards Table

No	Sanitary Product	Eco Standards		
		Standard Nasional Indonesia	USA EPAct	USA WaterSense
1	Water Faucet	[SNI 03-7065-2005] SNI about plumbing installation planning. There is no specific explanation about standardization of water flowrate	[EPAct 1992, EPAct 2005] for Residential Bathroom Faucets 2.2 *gpm* at 60 psi	[WaterSense or ENERGY STAR] for Residential Bathroom Faucets | 1.5 gpm at 60 psi (no less than 0.8 gpm at 20 psi)
		[Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat No.2 PRT M 2015 | about Green Building Standards] 8 L/minute or 2.1 gpm	[EPAct 1992, EPAct 2005] for Commercial Faucets | 2.2 gpm at 60 psi | Note: For all public lavatories 0.5 gpm maximum. 0.25 gallons per cycle for *metering faucets*	
2	Urinoir/Bidet	[SNI 03-7065-2005] SNI about plumbing installation planning. There is no specific explanation about standardization of water flush	[EPAct 1992, EPAct 2005] for Urinals | 1.0 *gpf*	None
		[Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat No.2 PRT M 2015 | about Green Building Standards] 4 L/flush or 1.05 gpf		
3	Toilets	[SNI 03-7065-2005] SNI about plumbing installation planning. There is no specific explanation about standardization of water flush	[EPAct 1992, EPAct 2005] for Residential Toilets 1.6 *gpf* | for Commercial Toilets 1.6 gpf	[WaterSense or ENERGY STAR] for Residential Toilets 1.28 gpf with at least 350 gram waste removal | for Dual Flush 1,40 gpf in

Table 2.3 Eco-Standards Table

No	Sanitary Product	Eco Standards		
		Standard Nasional Indonesia	USA EPAct	USA WaterSense
		[Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat No.2 PRT M 2015 | about Green Building Standards] 6 L/flush or 1.58 gpf		reduces flush mode and 2.oo gallons per flush in full flush mode
4	Shower	[SNI 03-7065-2005] SNI about plumbing installation planning. There is no specific explanation about standardization of water flowrate [Peraturan Menteri Pekerjaan Umum dan Perumahan Rakyat No.2 PRT M 2015 | about Green Building Standards] 9 L/minute or 2.37 gpm	[EPAct 1992, EPAct 2005] for Residential Showerheads | 2.5 gpm at 80 psi	None
5	Toilet Sprays	None	[EPAct 1992, EPAct 2005] for Pre-Rinse Spray Valves | Flow rate <= 1.6 gpm (no pressure specified)	None

2.3 Survey Design

This sub-chapter explains about the theories that are used in conducting the survey for data collection phase. The theories that used aims to determine the sample size for the questionaires. It is important to determine the appropriate sample size to make the survey representative. There are three criteria usually specified to get the appropriate sample size which are the level of precision, the level of confidence or risk, and the degree of variability in the attributes of being measured (Miaoulis et al, 1976).

The level of precision is also called as sampling error, is the range in which the true value of the population is estimated to be. Usually the level of precision is around 5%. The confidence level or risk level is based on ideas under the Central Limit Theorem. In a normal distribution, approximately 95% of the sample values are within two standard deviations of the true population value. The third criteria, the degree of variability refers to the distribution of attributes in the population.

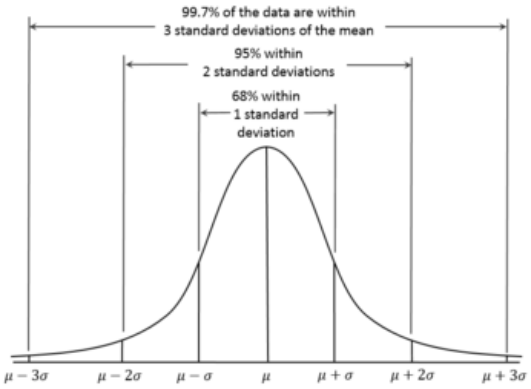

Figure 2.4 Distribution of Means (Source: Israel 1992)

Although tables can provide a useful guide for determining the sample size, you may need to calculate the necessary sample size for a different combination of levels of precision, confidence, and variability (Israel, 1992). We can calculate the sample size using the table or not. The equation in using the table is explained below.

For samples that are large, the equation to determine the sample size which is

$$n_0 = \frac{Z^2 pq}{e^2}$$

If the population is small the sample can be reduced slightly. The sample size equation becomes.

$$n = \frac{n_0}{1 + \frac{(n_0 - 1)}{N}}$$

where N is the population size and n is the sample size.

We can also calculate the sample size using the second method which is to use the formula for the sample size for the mean. The formula of the sample size for the mean is similar to that of the proportion, except for the measure of variability (Israel 1992). The formula for the mean employs σ2 instead of (p x q).

$$n_0 = \frac{Z^2 \sigma^2}{e^2}$$

Where n_0 is the sample size, z is the abscissa of the normal curve that cuts off an area α at the tails, e is the desired level of precision (in the same unit of measure as the variance), and σ2 is the variance of an attribute in the population.

2.4 Simulation Modeling Approach

There are several approaches in simulation modeling that are often used to solve problems. Each approach has its level of detailness and different data flow. The differences can be seen in the figure below.

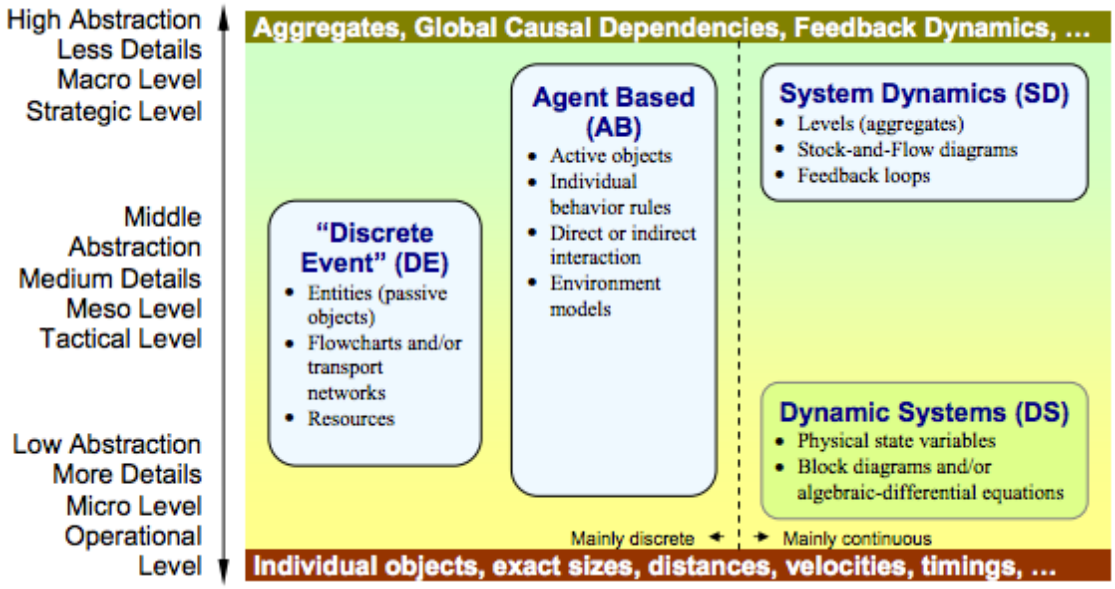

Figure 2.5 Modeling Simulation Approach according to the abstraction and detail level Source: (Borshchev and Filippov, 2004)

Discrete event simulation and agent-based modeling according to the figure above shows a similarity which is mainly discrete type of data flow. While system dynamics and dynamics system tends to have continuous data flow. Agent-based modeling is considered new compared to the other modeling approach which are discrete event and system dynamics (Borshchev et al, 2004). Dynamic systems are mainly used for physical state variables. The use of those 4 approaches depends

on the case that the modeler wants to model. The modeler needs to determine the appropriate and most representative model to illustrate the problem derived.

Discrete event approach based on the concept of entity, diagram block that describe the entity flow and the resource usage. In this approach, the entity are described as passive objects that could be human, documents, order, etc. The entity will enter and processed in several block diagrams. The block diagrams that the entity went through will do queuing, processing, absorb or release resource, etc.

System Dynamics is an approach that focus on the information feedback characteristics within the industrial activity in order to show how organizational structur, amplification, and time delays. To approach the problem in System Dynamics style one has to describe the system behavior as a number of interacting feedback loops (Borshchev et al, 2004)

Dynamic System (DS) are the ancestor of System Dynamics. Hence, dynamic systems are implemented in a physical system such as mechanics, chemistry, and other technical diciplines.

Simulation is considered suitable since the problem identified are complex. The hypothesis to be tested troughout the simulation model is wether the scenario may influence the willingness to utilize eco-sanitary products.

2.5 Agent-Based Modelling and Simulation (ABMS)

This sub-chapter explains about the agent-based model theory that is used in making this final project research. ABMS are known by several other names such as ABM (Agent-Based Modelling) and IBM (Individual-based Modelling). Agent-based Model or ABMS is a simulation approach that highlights the action and interaction of agents and its effects to its surroundings or its environment. ABMS inspired by the intelligence of organisms in making decisions in biological science (Arvitrida, 2015). The word “agent” means that the modelling is based on the agents, while the word “simulation” in ABMS means that the agent’s interaction process are done repetitively from time-to-time (Macal et al, 2009). The agent in ABMS represents entities, which are independent, but interacts with other and also its environment. ABMS simulation are less likely to be used compared to discrete event simulation. Hence, the advancement of computational adapability, its

application is getting more widespread. (Macal et al, 2009). ABMS characteristic is the model generated will be decentralized. In ABMS, there are no defining the system's behavior as a whole. Hence, the modeler must define the behavior individually and then the general behavior is emerged from those. That is why ABMS also is known as bottom-up approach modelling. Agent-based modelling can simulate the emergent system behavior within a system. Therefore, agent-based model allows environment and agents to determine the emergent behavior as illustrated in figure 2.6.

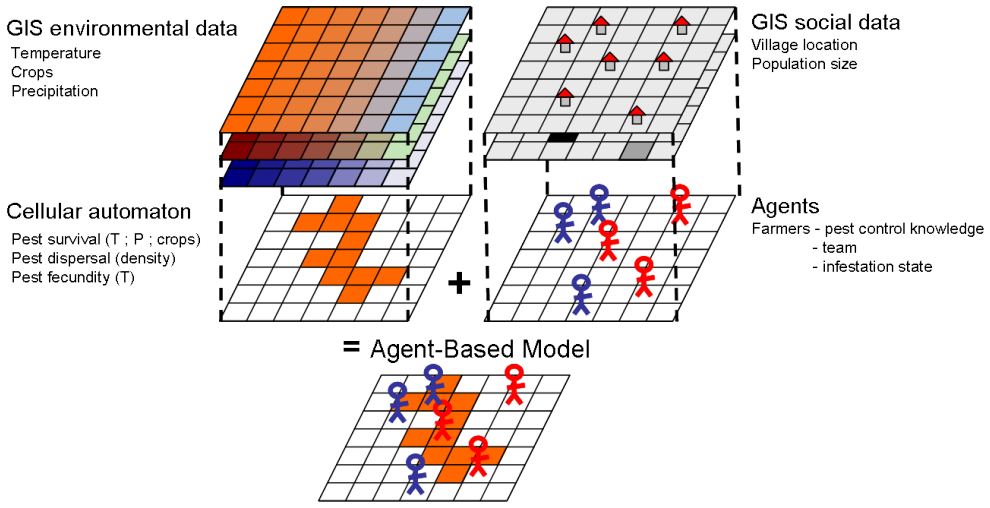

Figure 2.6 Agent-Based Model Illustration

An ABM is defined by three components that are a set of agents, specified by their attributes and behaviors; a set of agent relationship and methods for interaction, and an environment (Macal et al, 2009). Agents are assigned attributes or properties that describe their individual state. They are also assigned behaviors, represented as rules composed of logical and mathematical statements and executed in response to a signal or event. Agents may be encoded with advanced behaviors such as mobility and learning (Woolridge, 2002).

Agent behaviors are the attributes that differentiate one agent to another in context of its relationship and effects to the environment. The agent's behavior determines their characteristics. The type and complexity of an agent's behavior depends on the specific question addressed in the quistionaire. Agent's behaviors can be collected through various activities such as surveys, sensus data, and field

observation. Empirical data may be used to develop rules that represent realistic human behaviors using one of several approaches (Janssen et al, 2006).

Agents interactions are modeled as they influence the behavior of an agent through rules that respond to new information. The effect of communication on agent behaviors can be represented using a threshold rule, for example, which simulates an agent adopting a new behavior after it communicates with a predetermined percentage of neighbors who have adopted it. Both the environment and the relationship among agents may restrict an agent's interaction. For example, an agent may exchange info only with other agents that are in a shared space.

2.6 Model Verification and Validation

Verification and validation is an important process to be done in order to make the model more reliabile (Xiang et al., 2005). The Figure 2.7 illustrates the framework of verification and validation testing from the problems identification, conceptual model, and the simulation model.

The modeling process is started with the research question or problem identification. There are two research question that embed in this research, which is to develop the existing model that illustrates the existing willingness to utilize eco-sanitary products and to develop a scenario and strategy to influence the willingness to utilize eco-sanitary products. The conceptual model generation is based on the processes that happens in the existing condition or in the field observation. To be able to illustrate the real system as a whole, 2 conceptual models are made with causal loop diagram model. The conceptual model is later translated to an agent-based simulation using agent-based programming language. The simulation model needs to be verified to be able to illustrate the previously generated conceptual model both data flow diagram model and causal loop diagram model. Furthermore, to answer the research question, validation testing is needed.

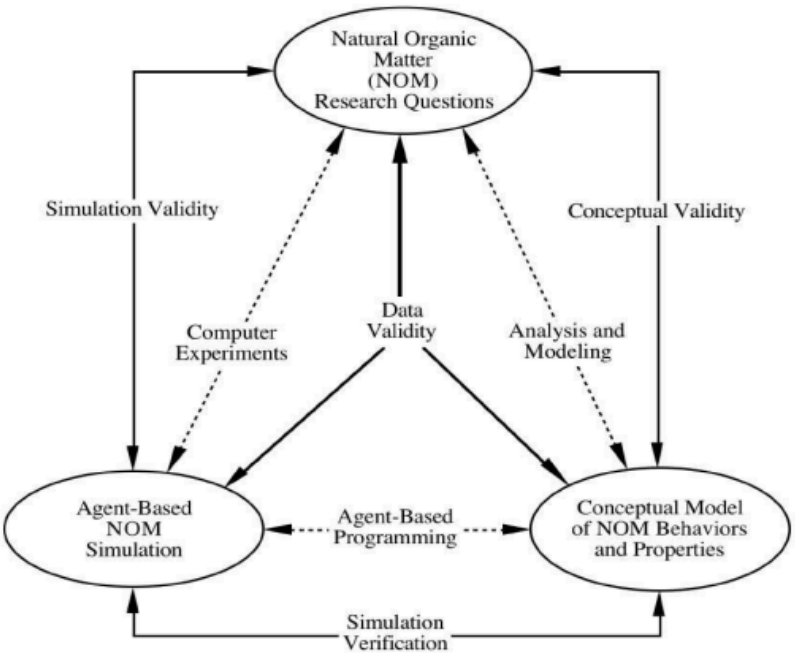

Figure 2.7 Verification and Validation Processes Example
(Source: Xiang et al., 2005)

2.7 Systems Models and Diagrams

The word model is defined in *Webster's Collegiate Dictionary* as a description or analogy used for helping to visualize something that cannot be directly observed. While a system model is a representation of all essential parts of a system (Daellenbach et al., 2005). A model may be iconic, analogous, or symbolic. A system description or model consists of specifying the transformation processes or activities within the system, the boundary, the components, subsystems, structure, inputs, and its outputs. There are several approaches to model a system one of them is causal loop diagram.

Causal loop diagrams highlight cause and effect relationships between various aspects, entities, or variables. If item A affects item B, this causes one or more attributes of item B to change, such as its numeric value or its status. This is shown by connecting the two variables with a directed arrow (Daellenbach et al., 2005). Within the directed arrow in the causal loop there are a sign which can value positive or negative which means the increase of value or the decrease of value correspond to the sign. An arrow from an item farther down in the cause-and-effect

chain to an earlier item is a feedback loop. The example of a causal loop diagram is illustrated in figure 2.8.

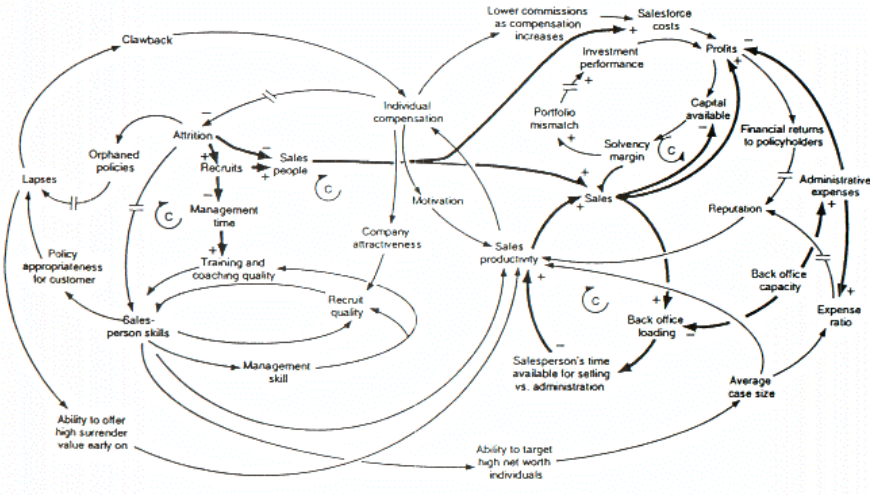

Figure 2.8 Causal Loop Diagram Example (Source: Daellenbach et al., 2005)

Several arrows have no positive or negative values assigned. It means that there are either constant inputs or they constrain an item or variable. Since all aspects shown can be expressed quantitatively, the relationships can be captured in mathematical form. Using system dynamics software such as Stella, it is possible to trace out numerically the effect of various policies of grower support (Daellenbach et al., 2005).

2.8 NetLogo

This sub-chapter contains the explanation of ABM tool to support the simulation process of this final project research. ABM use a software as a tool to process the emergent outcome based on the agent's interactions. There are various types of ABM simulation tool or application that can be used. One of the ABM simulation applications is NetLogo. This research utilizes NetLogo since it is opensource and use simple programming language to operate it.

NetLogo was first appeared since 1999 designed by Uri Wilensky. NetLogo is an open source application aim to do agent-based simulation or other simple programming tools. NetLogo is free and works in multi platforms that are

why it is commonly used as ABM simulation application. NetLogo is multi-agent programmable modelling environment. The NerLogo allows users to identify the emergent phenomena or behavior. It also comes with variety of model library such as economics, social science, biology, chemistry, physology, etc. The NetLogo interface example is as follows.

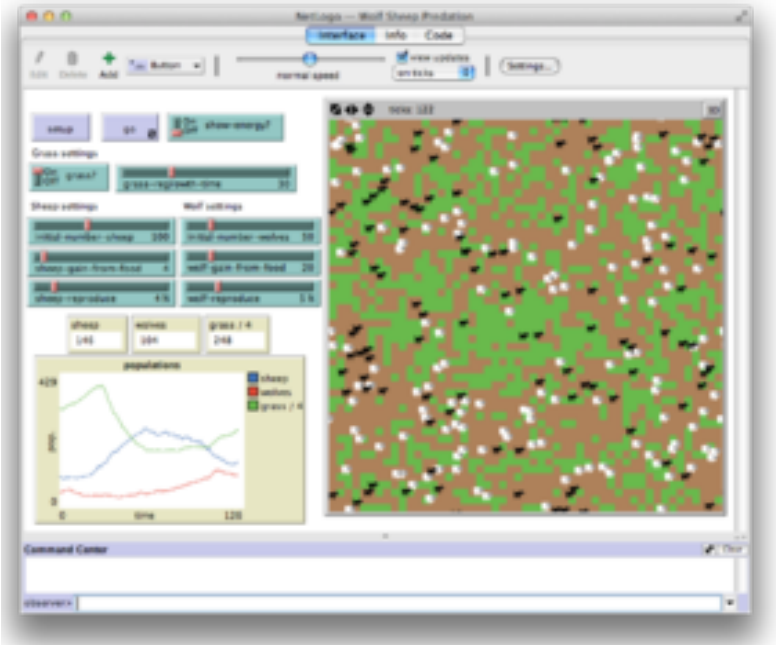

Figure 2.9 NetLogo Interface (Source: Netlogo.com)

2.9 Design of Experiment

Design of experiment theory is needed in order to determine the robust combination of factors that may affect the use of eco-sanitary products. Basically, experiment is used to understand a process or a system. Design of Experiments (DOE) is a test or a set of tests where significant changes is made to input variables from a process so we can observe and understand the changes in the output. The purpose of DOE is to understand a process or to compare the effect of several factors in several phenomena which offer information regarding which factor is needed to be highlighted. There are several objectives of design of experiment which are.

1. Determine which variable that affect response variable Y the most.
2. Determine how to input each variable value that affect to make the response variable close to the target value.

3. Determine the value of each variable that affects the variation of the response.
4. Determine the value of each variable that minimize the noise factor.

DOE will require several statistical analyses such as ANOVA to determine which factor is significant to the response variable. Taguchi DOE will be used in order to save time regarding the experiment. The DOE process will be conducted using the supporting software which is Minitab 13.

The taguchi method is an off-line quality improvement effort that focuses on improving product and process design (Bagchi, 1993). The Taguchi method is used to improve the quality of products and processes. Improved quality results when a higher level of performance is consistently obtained. The highest possible performance is obtained by determining the optimum combination of design factors. The consistency of performance is obtained by making the product/process insensitive to the influence of the uncontrollable factor. In Taguchi's approach, the optimum design is determined by using design of experiment principles, and consistency of performance is achieved by carrying out the trial conditions under the influence of the noise factors.

2.10 Previous Studies

This sub-chapter discuss about the previous studies that have been conducted in modeling and water management that contributes to this final project. There are 3 researches that are relevant. Those research focus on the modeling approach to give solution to the problem derived. The table below shows the comparison between 3 previous research and this research.

Table 2.4 Previous Research Table

No	Research Title	Author	Year
1	An agent-based model for domestic water management in Valladolid metropolitan area	Jose M. Galan, Adolfo Lopez-Paredes, and Ricardo del Olmo	2009
2	Perancangan Model Penyaluran KUR di BPD Cabang X dengan Menggunakan ABMS	Tsabita Titin Suhariyanto	2013
3	Modeling urban transition: a case of rainwater harvesting	Adam C Castonguay, Christian Urich, and Ana Deletic	2016

Table 2.4 Previous Research Table

No	Research Title	Author	Year
4	Modeling Surabaya people's willingness to urilize eco-sanitary products using agent-based modelling simulation	Lukman Ardiansyah	2017

The first research demonstrates the combination of agent-based modeling and simulation that constitutes a useful methodological approach to dealing with the complexity from derriving multiple factors that influence in the domestic water management in emergent metropolitan area. The research adapts and integrates different social submodels, models of urban dynamics, water consumption, and technological and opinion diffusion.

The modeling and simulation in the second research utilizes agent-based modeling and simulation to evaluate the Credit distribution (Kredit Usaha Rakyat). The aim of the research is to develop an agent-based model simulation that can illustrate the existing credit problem in BPD Branch X with the generation of improvement scenarios.

The third research utilize agent-based modeling simulation approach to solve the research problem. The research integrates social and environmental factors, as well as economic evaluation of water services. The model is applied to evaluate incentive-based strategies to increase the adoption of rainwater tanks.

Furthermore, there were no research focusing on the modeling of household agents towards the use of eco-sanitary products. Hence, this research adopt several same processes in terms of flow of work.

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CHAPTER 3
METHODOLOGY

This chapter contains the methodology that is used in making this final project research. The methodology copes with the literature systematics that is made in the first chapter.

3.1 Preparation Phase

This sub-chapter explains about the preparation phase of the final project research. The preparation phase contains the problem identification and also the literature review that are used.

3.1.1 Field Observation

Based on the existing condition of the object, the problem is identified through the field observation in Surabaya city. The problem identified is the determination of robust scenario and strategy to enable more sustainable water system in Surabaya by the implementation of eco-sanitary products through agent-based modelling simulation. The implementation of more sustainable water system hopefully can avoid the water crisis in Surabaya by the year 2018 and make Surabaya more liveable city.

3.1.2 Literature Review

Literature review phase is the search of literatures, books, or article that corresponds to the final project research. In this case, the literature that are explained is water system design such as the water system phases starting from the most fundamental which is water supply to the most sustainable which is water sensitive. The second literature is agent-based model that is the simulation approach that highlights agent's interaction with each other and with its environment. Third literature is the NetLogo that is the tool or application that are used to support the agent-based modelling. NetLogo is a free multi-platform app that enables users to simulate agents to observe its emergent outcome.

3.2 Data Collection Phase

This chapter contains the data collection phase of the final project research. This phase will be divided into scenario development and data collection.

3.2.1 Data Collection Design

The questionnaire design consists of 4 sections. The first section is the demographic, the second section consist of information regarding clean water and drinking water usage, the third section emphasize on the use of eco-sanitary products, the last section is collecting the willingness to change and pay data. The questionnaires are distributed to all 31 districts around Surabaya area. Each 31 districts have its sampling size to represent to district's data. Each districts has its own target of respondents. The survey is done in 3 weeks in total of 440 questionaire. There were also quality control regarding the survey in which the surveyor will randomly confirm the respondents by phone.

3.2.2 Data Collection

Data collection is the collection of data that corresponds to the final project research. In this case, data collection is done by quistionaire. A team of surveyors delivers the quistionaire throughout the Surabaya area. The quistionaire will be delivered in February 2017. The respondent of the questionnaire is Surabaya household. The household representative can be the housewives or the head of the family. The data will be the input of the model that will be done in the next phase. The questionnaires are distributed by the surveyors that has its own responsibility to a district. The obstacles in the data collection is to find respondents whom are willing to spend time filling the questionnaire and finding the suitable type of household.

3.3 Modeling and Scenario Selection Phase

The third phase is the modeling and scenario selection phase. This phase conducts a model development through conceptual model and causal loop diagram. After the model is developed the scenario selection can proceed.

3.3.1 Conceptual Model Generation

After the data are collected, conceptual modelling needs to be done prior to the simulation model generation to understand the system as a whole. Conceptual model generation are done by identifying agents that are involved and illustrate the interaction or relationships among its agents. Conceptual Model are made by Causal loop diagram).

3.3.2 Causal Loop Diagram Generation

This step is done before the generation of the simulation model. Causal loop diagram is needed to understand and know the cause and effect of each agent's relationship with other agent's.

3.3.3 Identify Each Agent's Role and Programming Language

Identifying each agent's role is important to know the positioning of each agent's in the simulation model itself. After the agent's role are identified, each agent will be programmed to a programming language as an input to the simulation software.

3.3.4 Simulation Model Generation

In generating the simulation model, it is needed to build the causal loop diagram, identify the role of each agents, and the agent's behaviors. Causal loop diagram is needed to describe the cause and effect between variables. Agent's role is identified and assessed to the programming language as the input for the simulation program. Simulation model generation use NetLogo software which is an open source ABMS software that is easy to acquire.

3.3.5 Model Verification and Validation

Verification and validation is performed on the model that was made to ensure that the model has been in accordance with the logic of the development of models and the existing conditions. Verification is the checking whether the model constructed in accordance logically and mathematically. While the model

validation phase is to check whether the model in accordance with the conditions of the problem. Validation test are done using t-test with SPSS software.

3.3.6 Orthogonal Array Development

The orthogonal array development is required to know how many experiments needed. The orthogonal array step decides which design of experiment type is needed whether it needs to be done in full factorial or using other design of experiment types such as taguchi design of experiment. The researcher selects the optimum number of experiments to accommodate all of the factors and levels. After we be able to define the orthogonal array we able to do statistical process such as ANOVA to know which factor affects the outcome of the use of eco-sanitary products.

3.3.7 S/N Ratio Generation

S/N Ratio generation step is needed to know which level within each factor that positively affects the use of eco-sanitary products. S/N Ratio that are used is smaller the better (STB). In interpreting the S/N Ratio, factors that is not correlates with the use of eco-sanitary products is neglected based on the ANOVA result in the previous step.

3.4 Conclusion and Suggestion

This phase is the analysis and interpretation phase from the model that are generated and also the purposed improvement scenario developed. In this chapter we make conclusion derived from the previous chapter and also giving suggestions for future research.

3.4.1 Conclusion and Suggestion

This phase is the generation of conclusion and suggestions from the research that has been done. The conclusion obtained by answering the research objectives that is previously set. Suggestions are given for further research and for the company similar observations.

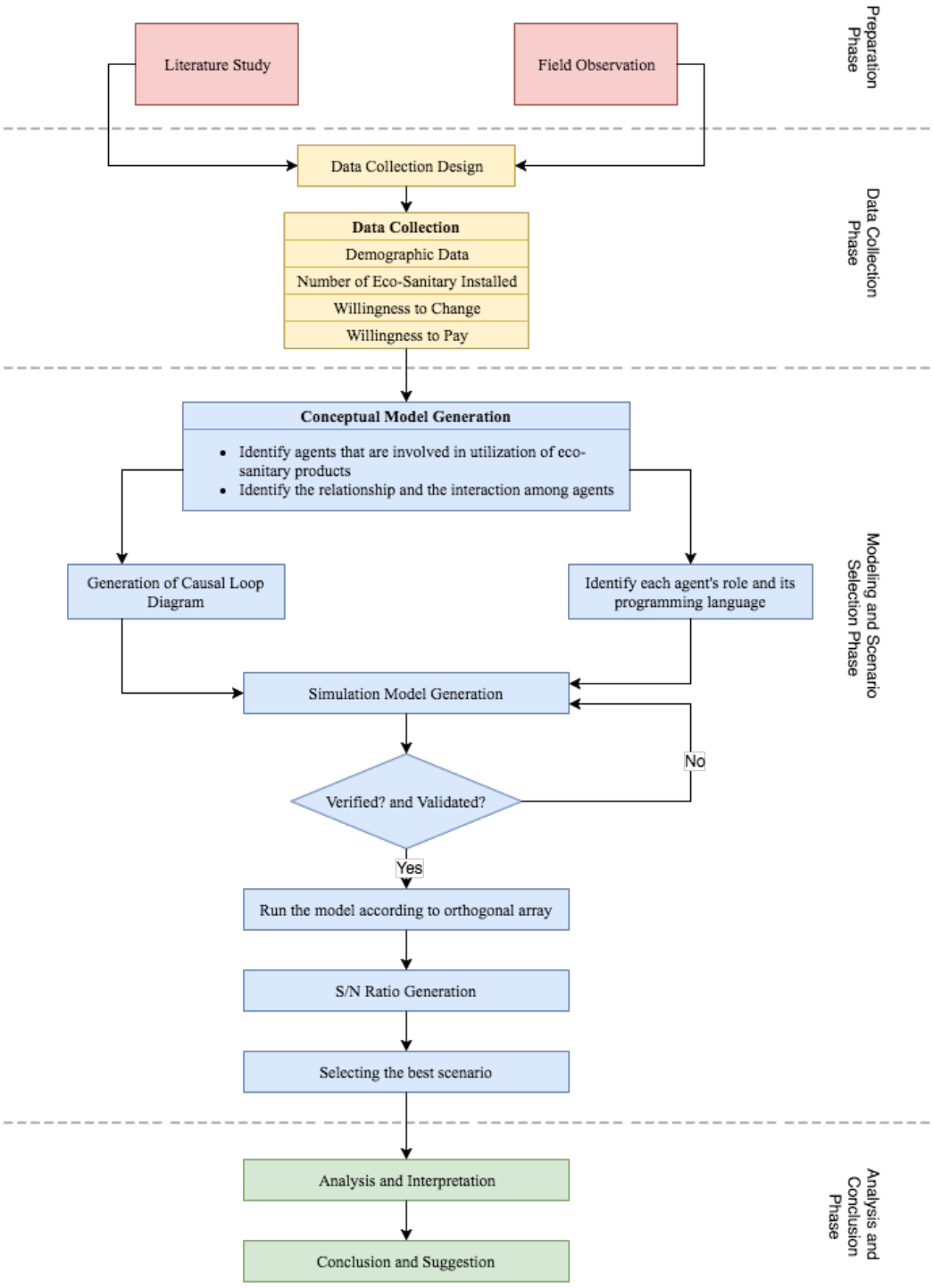

Figure 3.1 Research Methodology Flowchart

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CHAPTER 4
DATA COLLECTION AND ANALYSIS

This chapter consists of the collection of data that are needed in doing this final project research. This chapter also consists of data processing that is going to be analyzed further in the next chapters. This chapter mostly discuss the questionnaire recapitulation and its processing.

4.1 Hypothetical Model

This sub-chapter explains about the hypothetical model of the research. The hypothetical model illustrates the input, process, and output. It also describes the experimental factors that are going to be embedded in the simulation model itself and also the agent's behavioral rules. The hypothetical model is as follows.

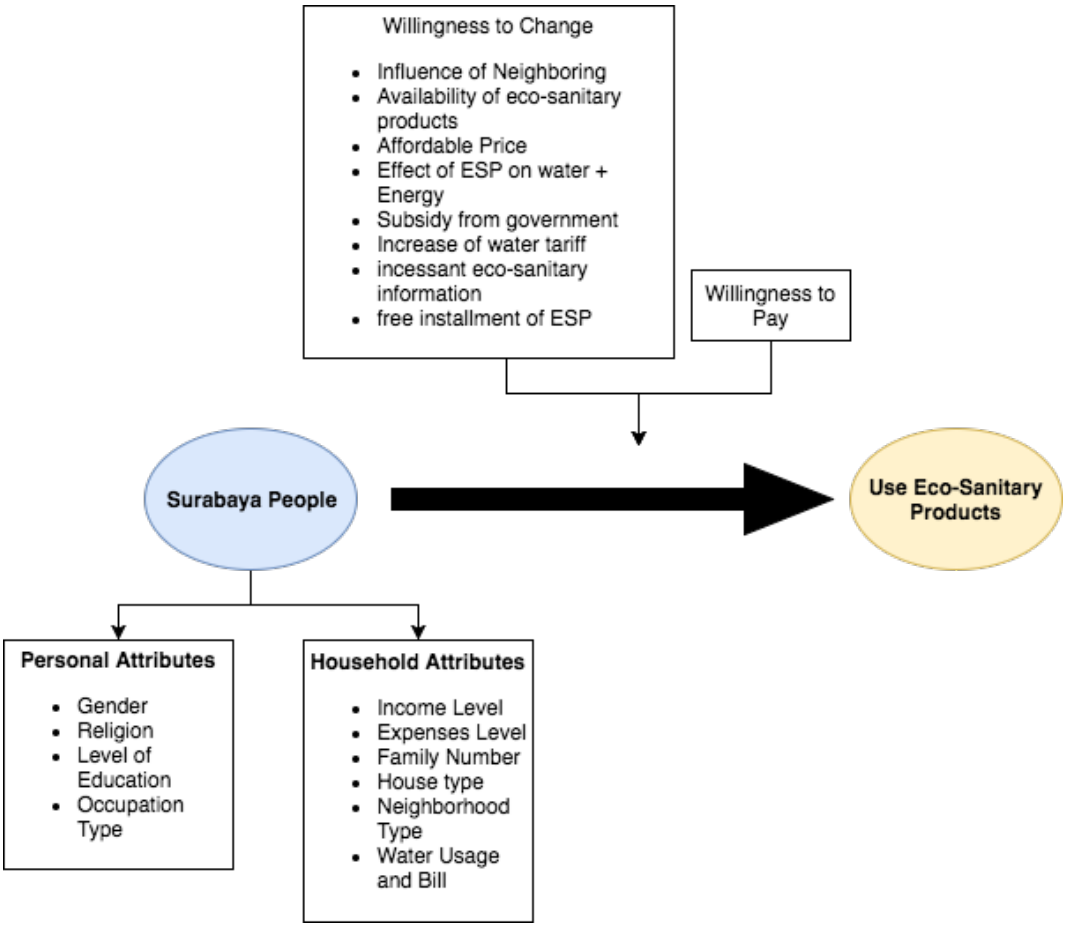


Figure 4.1 Hypothetical Model Graph

The process chart above shows the input, process, and output of the simulation model that will be generated. The input is the Surabaya people which has several behavioral factors. Those behavioral factors are the level of awareness, level of income, and the level of education. Hence, the bases of the agents itself that differentiate one agent to another is the level of income. The level of awareness and education will be embedded in each type of agent's income. In this case, the agent itself is Surabaya people represented by the household. The output itself is the Surabaya people that utilize eco-sanitary products. However, to achieve that, several experimental factors are needed to be done to the agents to alter its decision making towards eco-sanitary products. Those experimental factors are embedded in the questionaires to be asked to the respondents. There are 2 types of experimental factors which are willingness to change and willingness to pay. In fact, willingness to change itself has several scenarios to be offered to the Surabaya people itself. There are 8 scenarios to be offered as explained above. Each scenario requires the agent or the household to interact with other agents aswell as its environment.

4.1.1 Willingness to Change Factor Development

The willingness to change factors are developed by the research team of clean water management of ITS. The research team firstly brainstorm the possible factors that may affect the use of eco-sanitary products while simultaneously defining the agents that are involved. Therefore, there are 8 factors affecting the use of eco-sanitary products which are supported by literatures. Those sources of literature are explained in the table below.

Table 4.1 Factors Literature List

No	Factor	Literature
1	Neighboring	Modelling urban transition: a case of rainwater harvesting. (Castonguay 2016)
2	Availability of Eco-Sanitary Products	https://gaya.tempo.co/read/news/2013/07/27/174500245/cerdas-memilih-produk-saniter

Table 4.1 Factors Literature List

No	Factor	Literature
3	Affordable Price	http://perpustakaan.bappenas.go.id/lontar/file?file=digital/129179-[_Konten_]-Kebijakan%20Subsidi%20Untuk%20Pelayanan%20Air.pdf
4	Effect of Eco-Sanitary Products on Water and Energy	http://birohukum.pu.go.id/uploads/DPU/2015/Lamp-PermenPUPR02-2015.pdf.
5	Subsidy from government	http://perpustakaan.bappenas.go.id/lontar/file?file=digital/129179-[_Konten_]-Kebijakan%20Subsidi%20Untuk%20Pelayanan%20Air.pdf
6	Increase of water tariff	www.mst.dk/udgiv/Publications/2001/87-7944-519-5/html/app02_eng.htm
7	Eco-sanitary products information	www.ises.org/sepconew/Pages/Efficiency_Standards_MX/document.pdf
8	free installment of ESP	

4.2 Questionaire Design

This sub-chapter explains about the questionnaire design that are developed in making this final project. The questionnaire design includes sampling method that are used and also the questions. This sub-chapter explains about thethat are embed in the questionnaire.

4.2.1 Questionaire Sampling Method

This sub-chapter will explain the number samples that are needed to get the reliable and representative data. The questionnaires are intended for households. This chapter also explains regarding the allocation of questionnaires throughout the Surabaya Area and also its survey mechanism. The survey is conducted in order to know the level of awareness of Surabaya people towards the eco-sanitary products and also the preferred scenario and cost through willingness to change and willingness to pay questions.

In determining the number of samples needed we use Slovin Method. Slovin method are used because it is often used by researchers to determine the number of

samples and also it is simple or easily to be understood. The Slovin method equation is as follows.

$$n = \frac{N}{1 + Ne^2}$$

Where:

n = Number of Sample

N = Number of population that are going to be sampled

e = margin of error

Since the number of population in Surabaya according to BPS data in 2012 is 3.110.187. The margin of error is determined subjectively by the researcher therefore the margin of error is 0.05 and 95% level of confidence. Therefore, the number of sample that are needed is 400 samples. The data collection in this survey is done by using stratified random sampling method. The data collection is done towards each of the Surabaya city districts. Below are the sampling allocations for each districts in Surabaya.

Table 4.2 Surabaya District Proportions

No	District	Total	Household	Percentage
1	Tegalsari	101,716	20,343	3.56%
2	Genteng	59,273	11,855	2.08%
3	Bubutan	101,812	20,362	3.57%
4	Simokerto	97,713	19,543	3.42%
5	Pabean Cantian	82,383	16,477	2.89%
6	Semampir	182,531	36,506	6.40%
7	Krembangan	115,638	23,128	4.05%
8	Kenjeran	146,757	29,351	5.14%
9	Bulak	40,642	8,128	1.42%
10	Tambak Sari	217,100	43,420	7.61%
11	Gubeng	136,621	27,324	4.79%
12	Rungkut	104,046	20,809	3.65%
13	Tenggilis Mejoyo	54,861	10,972	1.92%
14	Gunung Anyar	52,120	10,424	1.83%
15	Sukolilo	104,893	20,979	3.68%

Table 4.2 Surabaya District Proportion (Cont')

No	District	Total	Household	Percentage
16	Mulyorejo	82,773	16,555	2.90%
17	Sawahan	201,721	40,344	7.07%
18	Wonokromo	159,964	31,993	5.61%
19	Karang Pilang	70,322	14,064	2.46%
20	Dukuh Pakis	58,429	11,686	2.05%
21	Wiyung	65,742	13,148	2.30%
22	Wonocolo	78,337	15,667	2.75%
23	Gayungan	44,092	8,818	1.55%
24	Jambangan	47,548	9,510	1.67%
25	Tandes	89,469	17,894	3.14%
26	Sukomanunggal	97,909	19,582	3.43%
27	Asemrowo	42,973	8,595	1.51%
28	Benowo	55,754	11,151	1.95%
29	Pakal	48,484	9,697	1.70%
30	Lakar Santri	53,472	10,694	1.87%
31	Sambi Kerep	58,566	11,713	2.05%
Total		**2,853,661**	**570,732**	**100.00%**

Firstly, as we can see from the table above we need to define the percentage of each districts in Surabaya and followed by the sampling for each districts and sub-districts based on the district's percentage.

The survey mechanism is done by allocating the surveyors throughout each of the districts in Surabaya. Each surveyor needs to find a respondent for low, medium, and high income households in each of the districts. The respondents will answer the questionaires assisted by the surveyors. The surveyors also need to get the water and electricity bill as an authencity.

Figure 4.2 Survey Illustration

The survey also has a quality control method to ensure all of the data reported from the surveyors are valid. To ensure, the research team will randomly call the respondents to confirm their involvement regarding the questionaires. Surveyors will report the data to the google form developed by the research team in order to recapitulate the data collected. The cellphone numbers that are contacted by surveyor team to verify the data is listed below.

Table 4.3 Respondent Cellphone Number

No	Cellphone Number
1	81230713xxx
2	85730778xxx
3	81934600xxx
4	8156596xxx
5	82131602xxx
6	82324490xxx
7	81325197xxx
8	85733465xxx
9	85755455xxx
10	87852225xxx

Ten cellphone numbers are randomly selected from each district with different respondents. In result, all 10 cellphone numbers contacted verify that they are the respondent of the water research.

4.2.2 Questionaire Development

This sub-chapter explains the questions or information that are gathered in the questionaires. The questions in the questionnaire are developed by the research team and are divided into several sections. Not all information or questions in the questionnaire are processed since the questionnaire are developed by the research team. The questionnaire are divided into 4 sections which are:

- Demographic Data
- Drinking Water Usage and Clean Water Supply
- Sanitary Products Availability
- Consumer's Willingness to change and Pay.

Hence this final project will focus on the demographic data and the consumer's willingness to change and pay towards eco-sanitary products. The demographic data consist of the basic information regarding the respondents such as their gender, profession, income, outcome, number of people living in the house, religion, etc. It is important to know that information in order to characterize the household into several types of households. In this case, the household characteristics are divided into low income, medium income, and high income households.

The second section that are going to be processed in this final project is consumer's willingness to change and pay towards eco sanitary products. This section this devided into two which are willingness to change and willingness to pay. The willingness to change section discuss regarding the awareness of eco-sanitary products and also scenarios that may affect the decision making of household towards eco-sanitary products. There are 8 scenarios that are offered to the respondents. The scenarios are developed by the researcher prior the questionnaire survey and are later confirmed with the PDAM. The last is willingness to pay which indicate buying power of Surabaya household regarding the eco-sanitary prices.

4.3 Questionaire Result

This sub-chapter discusses the result of the questionnaires from all of the respondents. The questionnaire result is divided into two according to the respective sections.

4.3.1 Demographic Data

This sub-chapter explains about the demographic data result from the questionnaire survey conducted. The demographic data table is presented below.

Table 4.4 Demographic Data Table

Question	Explanation	Code	Explanation
A-1	Gender	1	Male
		2	Female
A-3	Religion	1	Hindu
		2	Budha
		3	Katholik
		4	Christian
		5	Moslem
A-4	Education	1	Elementary
		2	Middle School
		3	High School
		4	Diploma
		5	Bachelor
A-5	Occupation	1	PNS/Kary Swasta/ABRI/Polisi
		2	Entrepreneur
		3	Student
		4	Professional
		5	Others..
A-6	Income Level	1	Low Income Below Rp 3.000.000,-
		2	Medium Income Rp 3.000.001 – Rp 10.000.000
		3	High Income More than Rp 10.000.000,-
A-7	Spending	1	Low Spending
			< Rp 1.000.000 and
			Rp 1.000.001 – Rp 3.000.000
		2	Medium Spending
			Rp 3.000.001 – Rp 5.000.000
			> Rp 5.000.000
A-8	Infant	0	Yes, I have infant
		1	No, I don't have infant
A-9		1	1 person

Table 4.4 Demographic Data Table

Question	Explanation	Code	Explanation
	Family Member	2	2 – 3 people
		3	4 – 5 people
		4	More than 5 people
A-10	House Type	1	Family Kost
		2	Rent House
		3	Official Residence
		4	Private House
A-11	Neighborhood Type	1	Official Residence
		2	Real Estate
		3	Kampung
		4	Flats / Rumah Susun
		5	Apartement
B-5	Water Usage	1	< 10 m^3/KK/month
		2	10 – 30 m^3/KK/month
		3	30 – 50 m^3/KK/month
		4	> 50 m^3/KK/month
B-6	Water Bill	1	Rp 30.000 – Rp 50.000
		2	Rp 50.001 – Rp 75.000
		3	Rp 75.001 – Rp 100.000
		4	> Rp 100.000
C-4	Awareness to Water Crisis	0	No, I don't know about the issue
		1	Yes, I know about the issue
D-1	Knowledge about eco-sanitary	0	No, I am not familiar
		1	Yes, I am familiar

As we can see from the table above that each demographic data has several different level of categories. Each demographic data has a population of 441 samples throughout all areas of Surabaya city. Therefore, the result of each demographic questions above is given below.

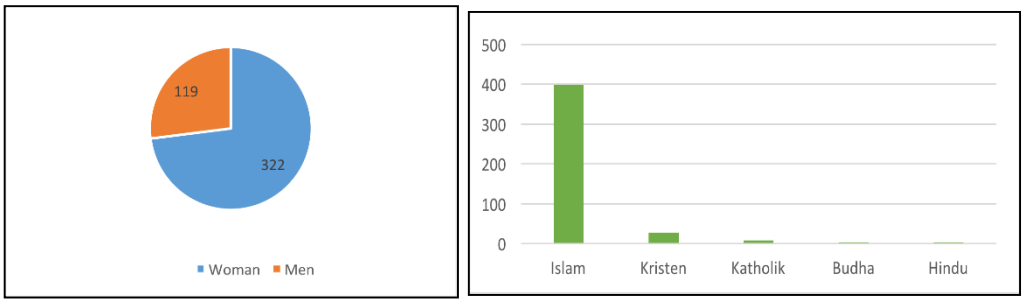


Figure 4.3 Gender and Religion Overall Result

As we can see from the graph above that the majority of respondent's gender is woman. It is because the survey is done during working hours to houses and the housewife is usually the one that was in the respondent's house. The Respondent's religion result also shows that around 90% of respondent's religion is moslem which is acceptable since the majority of religion in Surabaya is also moslem.

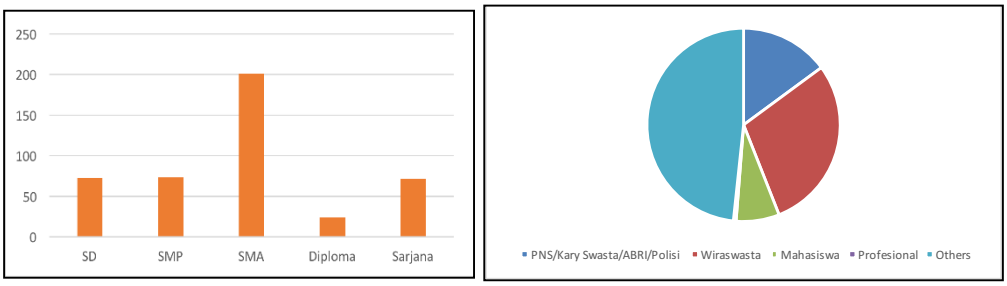


Figure 4.4 Educational Level and Occupation Type Overall Result

The respondent's education level result shows that the majority of the respondent's education level is high school while bachelor, middle school, and elementary is half the amount of high school respondents. The respondent's occupation result shows the majority of respondent do for a living is PNS and entrepreneur.

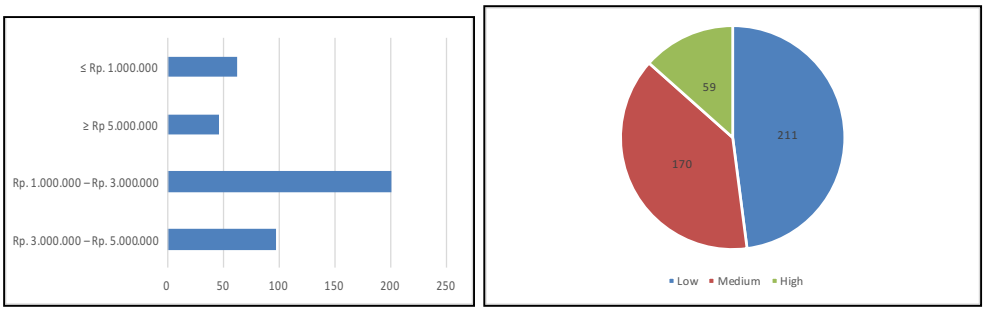


Figure 4.5 Monthly Expense and Income Overall Result

There are 7 options regarding the income level will range from below 1 million to more than 25 million rupiahs. The respondent income result is varied but the majority is in the second income classification. Hence, the lowest is for household which have income more than 25 million rupiahs. Household expenses

result also shows the significant result is for expense from 1 million to 3 million rupiahs. While the lowest expense is above 5 million rupiahs.

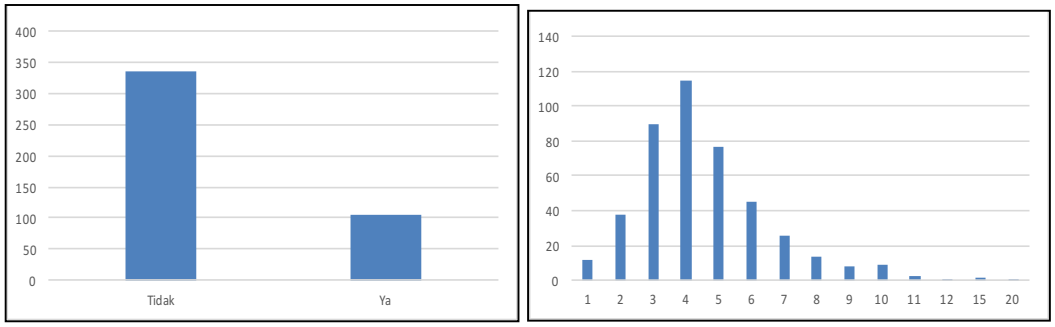


Figure 4.6 Infant and Number of People Living Overall Result

The other demographic data result is whereas infant appear within the household. Based on the graph above the majority of household doesn't have infant at their houses. Hence, the number of people living in the house result shows a normal distribution form with the peak is 4 people living in the house. The number of people living in the house have many categories since it is an open number data.

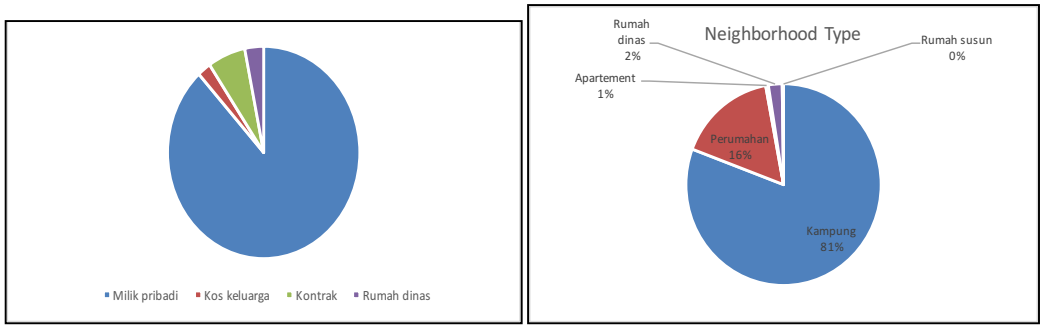


Figure 4.7 House Type and Neighborhood Type Overall Result

The majority of house type based on the data above is privately owned houses while flats (Rumah Susun) is the lowest amongst all which has only one value. The neighborhood type shows that kampong is the most significant in terms of amoung amongst all other neighborhood type followed by the housing neighborhood is the second largest. To be exact, kampong neighborhood type is the largest by 82% amongst all respondent followed by housing type which is 36%.

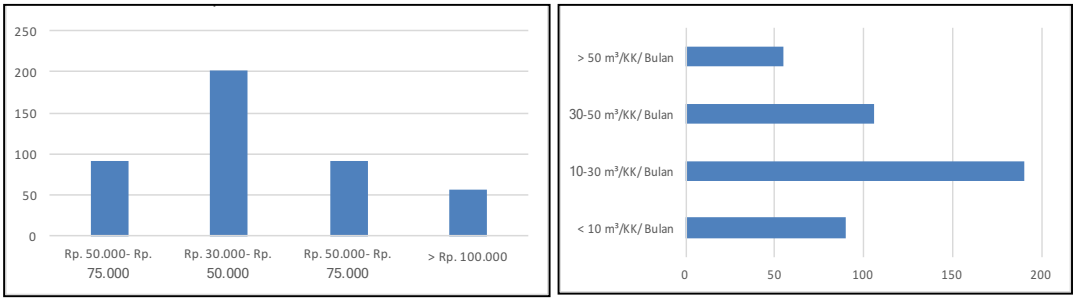


Figure 4.8 Water Bill and Water Usage Overall Result

The household water bill result shows that the highest classification of water bill paid is from Rp 30.000,- to Rp 50.000,-. To be exact, around 200 respondents has Rp 30.000 to Rp 50.000 water bill. Hence, the water use also shows that the majority of result is household that use 10 to 30 m3 of water monthly. The lowest is household that use clean water more than 50 m3 per month.

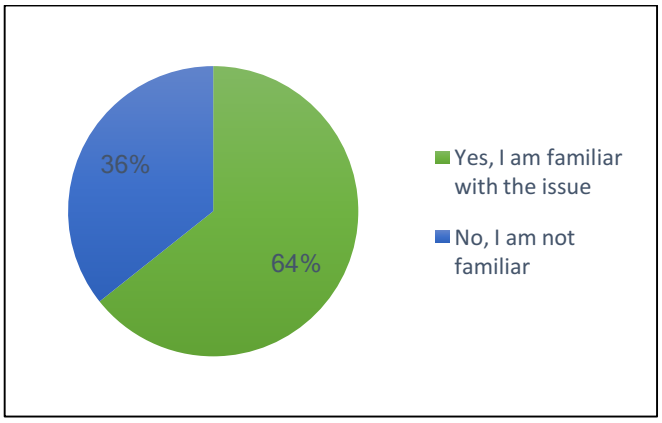


Figure 4.9 Awareness to Water Crisis Overall Result

The awareness of Surabaya people towards the water crisis issue is represented by the graph above. It shows that more than 50% of the respondent knew the water crisis issue by 2018. Hence, not all people immideatly take action to do something in regard to the water crisis. Spesifically, there are 64% respondent that are familiar with the issue while 36% of the respondent doesn't know the issue.

4.2.2 Consumer's Willingness

This sub-chapter explains about the consumer's willingness to change towards eco-sanitary products and also its willingness to pay. The consumer's willingness data is important to know the level of awareness for eco-sanitary

products and determining the behavior of each household category in response to the ESP factor and also relationship with other agents. The level of awareness of Surabaya people towards eco-sanitary products is explained below.

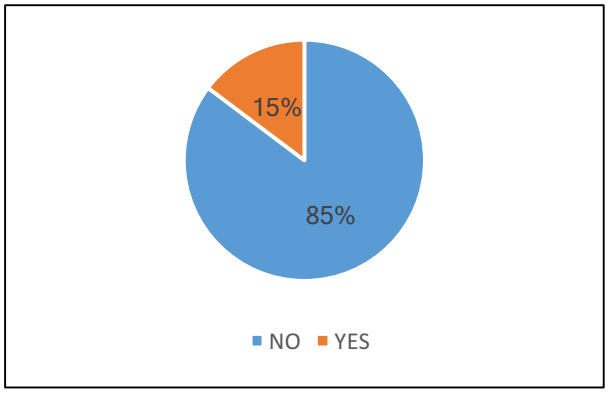


Figure 4.10 Knowledge for Eco-Sanitary Products Proportion

According to the graph above the Surabaya people's level of awareness regarding eco-sanitary products. The majority of respondents doesn't know eco-sanitary products. Only 15% respondents know the information regarding eco-sanitary products. Therefore, the result shows that Surabaya people has limited knowledge regarding the eco-sanitary products and its benefits. It happens because several factors and from several parties that are involved in the distribution of eco-sanitary products. It may happen because the number of eco-sanitary available in stores are low, no information regarding eco-sanitary products, or else. Hence, to influence the decision of Surabaya people to utilize eco-sanitary products several scenarios have been developed. The result of respondent's scenario preference is explained below.

Table 4.5 Overall Rank Count of Scenarios

ESP Factor	Count Rank 1	Count Rank 2	Count Rank 3	Count Rank 4	Count Rank 5
1	9	13	9	26	9
2	4	19	29	23	28
3	80	55	45	20	9
4	107	45	36	22	12
5	85	73	37	27	11
6	5	18	8	13	15
7	9	22	19	20	10
8	13	66	51	28	18

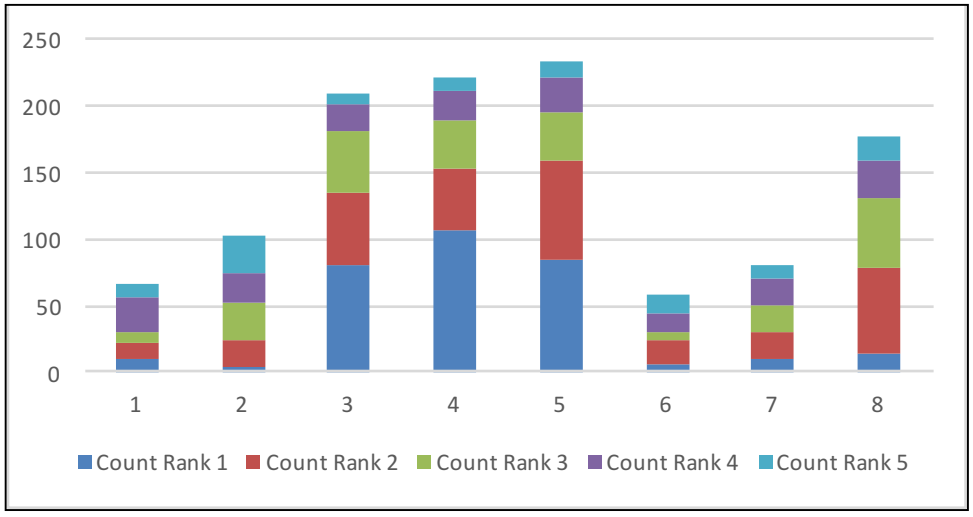


Figure 4.11 Overall Rank Count of Scenarios Graph

The graph above shows the result of respondent willingness to change preference as a whole. There are 8 ESP factors offered by the researcher. The respondent able to choose the ESP factors based on its own subjective preference and rank them from first to 8th rank. The condition coloumn represents the ESP factor offered by the researcher. From the graph above we know that the in terms of total respondent that chose ESP factor 3, 4, and 5 is the highest amongst other ESP factor offered. While the most not preferred ESP factor according to all respondent is ESP Factor 6 which is the increase of water tariff. The scenarios explanation is explained below.

1. Number of neighboring household that use eco-sanitary products. This condition aims to know how the decision making towards the usage of eco-sanitary products may be affected by the neighboring relations. For example a household may change to eco-sanitary products when most of him/her neighbors are using eco-sanitary products.
2. Eco-Sanitary products availability in stores. This condition aims to know how far the respondent willing to go to get the eco-sanitary products. Whether in stores near its house or to the home appliances department in center of town.
3. Affordable eco-sanitary products prices. This condition aims to know how the eco-sanitary products price prioritized in the household's behavior model. This condition will be further discussed in the willingness to pay section.

4. The installation of eco-sanitary products significantly reduces water and energy usage. This condition aims to know the prioritize level of eco-sanitary benefits towards the willingness to purchase it.
5. The purchase of eco-sanitary products is given subsidiaries from the government. This condition aims to know the interaction between household and the policy maker which is the city government. The focus is to know the subsidy may alter the decision making of household towards eco-sanitary products usage.
6. The increase of water tariff. The aim this condition is to know the interaction between household and the policy maker which is PDAM. The increase of water tariff may make household more concern about water usage and purchase the eco-sanitary products to reduce the water consumption.
7. The information of eco-sanitary products is incessant. This condition aims to know the interaction between household and the home appliances stores. The information that given to the household by the appliances stores may affect the decision making of eco-sanitary products usage.
8. Free installment fees from the company that sell eco-sanitary products. This condition aims to know the interaction between household and the eco-sanitary products company. Free installment will reduce the number of cash paid by the household to use eco-sanitary products.

4.3 Data Analysis

This sub-chapter explains about the data analysis regarding the household demographic data and the household's willingness to change data. The data analysis requires several statistical software such as SPSS.

4.3.2 Household Factors Analysis

This sub-chapter explains the household factors analysis regarding this research. The aim of this sub-chapter is to know which household's factor / variable affects the use of eco-sanitary products. This analysis requires SPSS software.

Firstly, in order to simulate the behavioral rule of the agent, it is needed to know which behavioral factors that affect the use of eco-sanitary products. The

factors that tested are 8 factors out of 14 factors that embedded in the questionnaire. It is because the deleted factors are only representing the respondent data and not the household data. While the decision making of eco-sanitary products usage requires household decisions rather than individual decision. The deleted factors are:

1. Gender
2. Religion
3. Education
4. Occupation
5. House Type
6. Neighborhood Type

The gender factor is a binary factor which was deleted because it does not represent the household decision making. Gender only represents the respondent condition while the gender within a house is varied. Religion also does not represent the household decision making since it is embedded in the respondent condition. Education and occupation within a household may varied and the questionnaire only capture the educational level and occupation data of the current person that fill in the questionnaire. Therefore, education and occupation cannot be justified as the household decision making factor. House type and neighborhood type cannot be justified as the household decision making since household living in the fixed housing infrastructure (for example apartment, rumah susun, and official residence). It is impossible for person living in the house to change the interior of the house since it is not privately owned by the current person. Therefore, the factors are given below.

Table 4.6 Household Demographic Data

Question	Factor	Explanation	Code	Explanation
A-6	X5	Income Level	1	Low Income Below Rp 3.000.000,-
			2	Medium Income Rp 3.000.001 – Rp 10.000.000
			3	High Income More than Rp 10.000.000,-
A-7	X6	Spending	1	Low Spending
				< Rp 1.000.000 and
				Rp 1.000.001 – Rp 3.000.000

Table 4.6 Household Demographic Data

Question	Factor	Explanation	Code	Explanation
			2	Medium Spending
				Rp 3.000.001 – Rp 5.000.000 and
				> Rp 5.000.000
A-8	X7	Infant	0	Yes, I have infant
			1	No, I don't have infant
A-9	X8	Family Member	1	1 person
			2	2 – 3 people
			3	4 – 5 people
			4	More than 5 people
B-5	X11	Water Usage	1	< 10 m^3/KK/Bulan
			2	10 – 30 m^3/KK/Bulan
			3	30 – 50 m^3/KK/Bulan
			4	> 50 m^3/KK/Bulan
B-6	X12	Water Bill	1	Rp 30.000 – Rp 50.000
			2	Rp 50.001 – Rp 75.000
			3	Rp 75.001 – Rp 100.000
			4	> Rp 100.000
C-4	X13	Awareness to Water Crisis	0	No, I don't know about the issue
			1	Yes, I know about the issue
D-1	X14	Knowledge about eco-sanitary	0	No, I am not familiar
			1	Yes, I am familiar

After all of the household's factors are identified and coded by X1, X2 etc, a correlation test is needed between Y and X factor to know wether the use of eco-sanitary products (Y) is affected by those factors above. Therefore, this test makes several factors deleted since they are not correlated with the Y which is the use of eco-sanitary products. The output that we need to highlight is the significant value of each factors that were tested. The detailed analysis on this process is written in Indah (2017). The hypothesis of the statement above is shown below.

Ho: There is no association between the two variables

Ho: Y is not correlated with factor Xn.

Ha: There is association between the two variables

Ha: Y is correlated with factor Xn

With significant level = 5% or 0.05

The example of SPSS result for X5 factor and the overall result is shown respectively Table 4.7.

Table 4.7 SPSS Result Example

Chi-Square Tests of X5			
	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.203 [a]	2	.027
Likelihood Ratio	6.837	2	.033
Linear-by-Linear Association	7.084	1	.008
N of Valid Cases	440		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.45.

Table 4.8 Overall Chi-Square Result

Question	Factor	Sig.	Chi-square Value
A - 6	X5	.027	7.203[a]
A - 7	X6	.007	7.185[a]
A - 8	X7	.312	1.023[a]
A - 9	X8	.573	11.450[a]
B - 5	X11	.127	2.328[a]
B - 6	X12	.558	1.166[a]
C - 4	X13	.000	12.572[a]
D - 1	X14	.003	8.709[a]

The Table 4.8 shows the result of chi-square test using SPSS software. From the table above we can see that not all household factors affect the use of eco-sanitary products (Y). There are 4 factors that affect the use of eco-sanitary products which is household income, expense, awareness regarding water crisis, and knowledge of eco-sanitary products. Hence, the expense and income factor are correlated with each other as well as the level of awareness with the level of knowledge factor. It is because the expense with income and awareness and knowledge has a linear relationship to one another. Therefore, the need to delete one in each correlated factor. We can justify those correlated factors using the chi-square value. Based on the chi-square value, we can conclude that the factor that affects the use of eco-sanitary products is X5 and X13 which is income level and level of awareness regarding water crisis. The selected factor will be factors that are embedded in the agent behavioral rule in the simulation model.

4.3.3 Household Willingness to Change Analysis

This sub-chapter explains about the household's willingness to change analysis. The household's factors in determining the willingness to change analysis are given in the previous sub-chapter which is income level and awareness regarding water crisis. Therefore, the ranking of scenario preference in regard to willingness to change are divided based on the combination between the two selected factors which is income level and awareness regarding water crisis. Moreover, the willingness to change classification is described below.

Table 4.9 Household Type Combinations

Income Level	Income Code	Awareness Level	Awareness Code	Combination
Low Income	1	No, I don't know	1	1 and 1
Medium Income	2	Yes, I know	2	1 and 2
Hard Income	3			2 and 1
				2 and 2
				3 and 1
				3 and 2

As we can see from the table above, there are 6 combinations of household's behavioral rule based on the statistical analysis above. Those two factors will be the household's agent behavioral rule in the agent-based modeling simulation process. Therefore, the response towards the willingness to change scenarios will be varying which is 6 types of responses based on the combinations above. Each combination represents unique type of response from the agents since each combination of factors has its own preference ranking. The preference ranking of each factor's combination is described below.

Table 4.10 Explanation of Each Scenarios

Scenario	Explanation
1	Number of neighboring household that use eco-sanitary products.
2	Eco-Sanitary products availability in stores.
3	Affordable eco-sanitary product prices
4	The installation of eco-sanitary products significantly reduces water and energy usage.
5	The purchase of eco-sanitary products is given subsidiaries from the government.
6	The increase of water tariff.

Table 4.10 Explanation of Each Scenarios

Scenario	Explanation
7	The information of eco-sanitary products is incessant.
8	Free installment fees from the company that sell eco-sanitary products

Therefore, the data regarding the total respondent that chose each ESP Factor is based on the household type is described below.

Table 4.11 Low Income – Not Aware Preference

ESP Factor	Rank 1	Rank 2	Rank 3	Total Weight	Rank
1	0	1	1	3	**6**
2	1	0	2	5	**5**
3	7	7	3	38	**3**
4	7	7	6	41	**2**
5	13	1	8	49	**1**
6	1	0	0	3	**6**
7	0	1	1	3	**6**
8	0	12	8	32	**4**
Weight	3	2	1		

Table 4.12 Low Income – Aware Preference

ESP Factor	Rank 1	Rank 2	Rank 3	Total Weight	Rank
1	1	3	0	9	**5**
2	0	0	1	1	**8**
3	2	2	8	18	**3**
4	4	0	3	15	**4**
5	10	2	2	36	**1**
6	0	1	0	2	**7**
7	1	1	2	7	**6**
8	1	10	4	27	**2**
Weight	3	2	1		

Table 4.13 Medium Income – Not Aware Preference

ESP Factor	Rank 1	Rank 2	Rank 3	Total Weight	Rank
1	0	1	0	2	**5**
2	0	0	2	2	**5**
3	6	2	4	26	**2**
4	5	5	1	26	**2**
5	8	6	4	40	**1**
6	0	2	0	4	**4**

Table 4.13 Medium Income – Not Aware Preference

ESP Factor	Rank 1	Rank 2	Rank 3	Total Weight	Rank
7	1	1	1	6	**3**
8	2	5	10	26	**2**
Weight	3	2	1		

Table 4.14 Medium Income – Aware Preference

ESP Factor	Rank 1	Rank 2	Rank 3	Total Weight	Rank
1	1	0	0	3	**5**
2	0	0	1	1	**6**
3	5	2	3	22	**3**
4	6	5	5	33	**1**
5	8	2	3	31	**2**
6	0	2	1	5	**4**
7	0	1	1	3	**5**
8	0	8	6	22	**3**
Weight	3	2	1		

Table 4.15 High Income – Not Aware Preference

ESP Factor	Rank 1	Rank 2	Rank 3	Total Weight	Rank
1	0	0	1	1	7
2	0	0	2	2	6
3	2	1	2	10	4
4	6	2	1	23	1
5	0	5	1	11	3
6	0	0	2	2	6
7	2	3	0	12	2
8	1	0	2	5	5
Weight	3	2	1		

Table 4.16 High Income – Aware Preference

ESP Factor	Rank 1	Rank 2	Rank 3	Total Weight	Rank
1	0	0	1	1	**8**
2	0	5	7	17	**4**
3	7	3	4	31	**2**
4	11	2	5	42	**1**
5	3	8	0	25	**3**
6	0	3	2	8	**7**
7	2	3	2	14	**5**

Table 4.16 High Income – Aware Preference

ESP Factor	Rank 1	Rank 2	Rank 3	Total Weight	Rank
8	2	1	4	12	**6**
Weight	3	2	1		

As we can see from the table above, the preference rank of each combination is unique to one another. The weight value of rank 1, 2, and 3 respectively are 3, 2, 1 as explained above. Based on the amount of respondent whom chose the corresponding scenario, we calculate the total weight with this equation below.

$$Total\ Weight = (Count\ Rank\ 1\ x\ 3) + (Count\ Rank\ 2\ x\ 2) + (Count\ Rank\ 3\ x\ 1)$$

Example of calculation is illustrated below.

$$Total\ Weight\ scenario\ 4\ for\ High\ Income\ and\ Aware\ Household$$
$$= (Count\ Rank\ 1\ x\ 3) + (Count\ Rank\ 2\ x\ 2) + (Count\ Rank\ 3\ x\ 1)$$
$$Total\ Weight = (11\ x\ 3) + (2\ x\ 2) + (5\ x\ 1)$$
$$Total\ Weight = (33) + (4) + (5)$$
$$Total\ Weight\ Scenario\ 4 = 42$$

After all total weight for each scenario and agent type is determined, the next step is to calculate the percentage of each scenario's influence towards the use eco-sanitary products. The percentage of scenarios is obtained by dividing the weight of the current scenario with the total weight amongst all scenarios. The percentages below will be the input for the simulation software as the percentage of influence to affect the decision making of household towards the use of eco-sanitary products. The percentage of each scenarios is described below.

Table 4.17 Overall Percentage of Factors

ESP Factor	Low - Not Aware	Low - Aware	Medium - Not Aware	Medium - Aware	High - Not Aware	High - Aware
1	8%	11%	8%	9%	5%	3%
2	10%	3%	8%	7%	8%	14%
3	15%	17%	15%	14%	13%	19%
4	18%	14%	15%	19%	21%	22%

Table 4.17 Overall Percentage of Factors

ESP Factor	Low - Not Aware	Low - Aware	Medium - Not Aware	Medium - Aware	High - Not Aware	High - Aware
5	21%	22%	17%	16%	16%	17%
6	8%	6%	10%	12%	8%	6%
7	8%	8%	13%	9%	18%	11%
8	13%	19%	15%	14%	11%	8%

As you can see from the table above, each scenario and type of household has its own percentage value. Meanwhile, several scenario has more than one level. For instance, scenario 5 which is subsidy has 4 level and scenario 2 which is product availability has 3 levels. Therefore, each scenario percentage has its own level percentage value. The overall percentage of all scenario level is described below.

a. Low Income whom not aware of water crisis

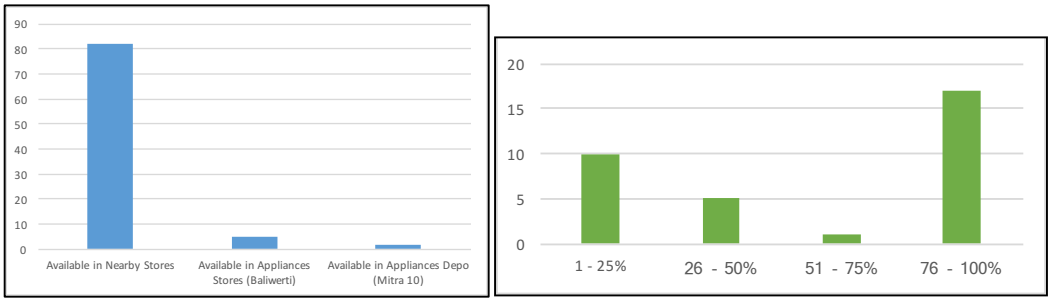


Figure 4.12 Combination 1 Availability and Neighboring Result

As you can see from the graph above that the majority of respondent chose to buy eco-sanitary products within the small appliances stores that are near their houses. While the lowest is buying eco-sanitary products in big appliances stores downtown. The neighboring factor starts at 10 people willing to change to eco-sanitary products and slowly decline as the percentage rises followed by a peak in the biggest percentage amongst all.

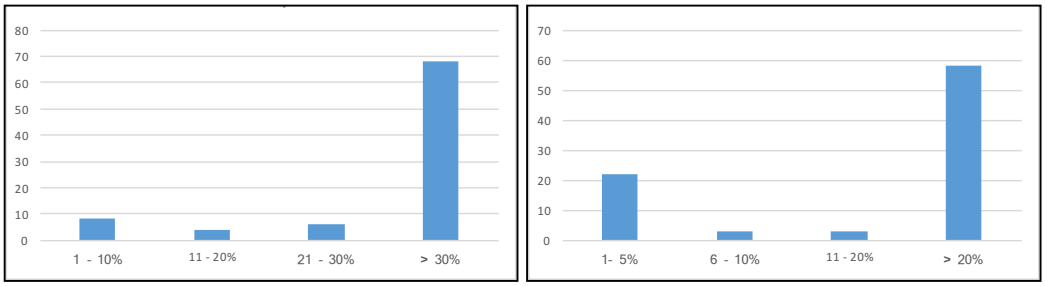


Figure 4.13 Combination 1 Subsidy and Water Tariff Result

The graph above shows subsidy level in scenario 5, the majority of people chose to change to eco-sanitary products when the subsidy given by the government is more than 30% of the total eco-sanitary product price. The second graph shows the water tariff graph and the majority of respondent chose to buy eco-sanitary products when the increase of water tariff is more than 20%.

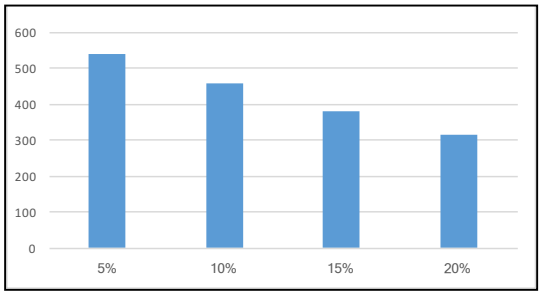
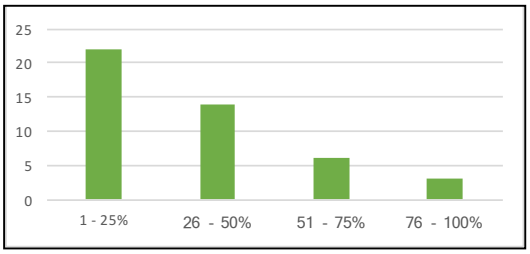


Figure 4.14 Combination 1 WTP Result

The graph above shows the willingness to pay level starting from 5% to 20% with a 5% margin in each level. From the graph we can see that with the increase of product's price is followed by the decrease of people that are willing to buy the product.

b. Low income whom aware of water crisis



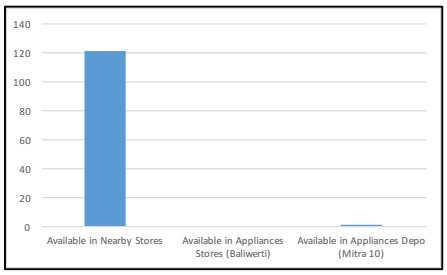


Figure 4.15 Combination 2 Availability and Neighboring Result

As you can see from the graph above that the majority of respondent chose to buy eco-sanitary products within the small appliances stores that are near their houses. While the few people are buying eco-sanitary products in big appliances stores downtown followed by no people willing to buy in Baliwerti. The neighboring factor starts at around 22 people willing to change to eco-sanitary products and slowly decline as the percentage rises.

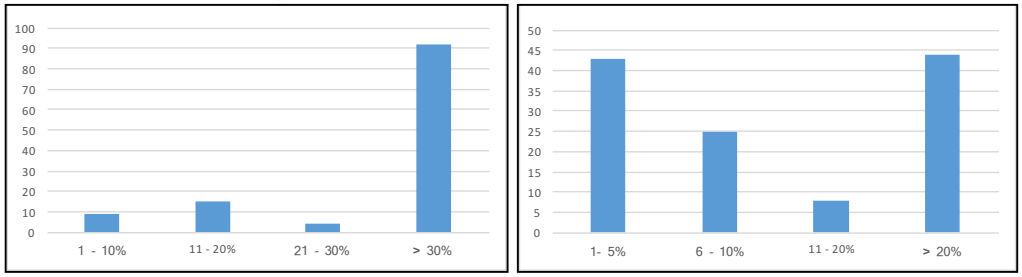


Figure 4.16 Combination 2 Subsidy and Water Tariff Result

The graph above shows subsidy level in scenario 5, the majority of people chose to change to eco-sanitary products when the subsidy given by the government is more than 30% of the total eco-sanitary product price. The second graph shows the water tariff graph and the majority of respondent chose to buy eco-sanitary products when the increase of water tariff is more than 20%.

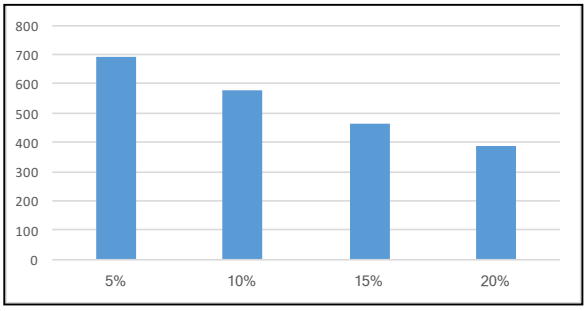


Figure 4.17 Combination 2 WTP Result

The graph above shows the willingness to pay level starting from 5% to 20% with a 5% margin in each level. From the graph we can see that with the increase of product's price is followed by the decrease of people that are willing to buy the product.

c. Medium income whom not aware of water crisis

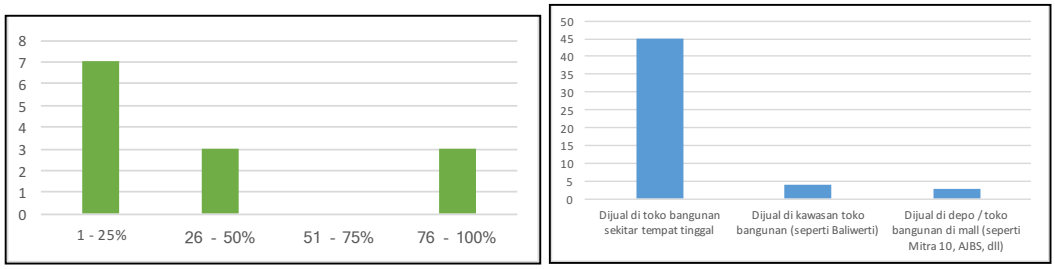


Figure 4.18 Combination 3 Availability and Neighboring Result

As you can see from the graph above that the majority of respondent chose to buy eco-sanitary products within the small appliances stores that are near their houses. While the few people are buying eco-sanitary products in big appliances stores downtown and Baliwerti. The neighboring factor in medium income and not aware household peaks at the first level and 2 other level has the same value.

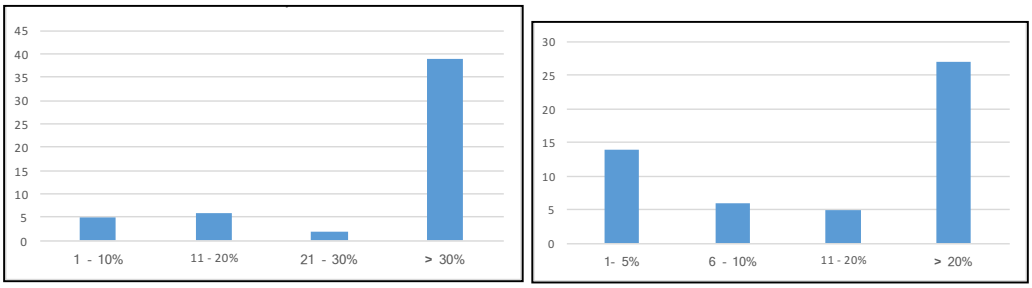


Figure 4.19 Combination 3 Subsidy and Water Tariff Result

The graph above illustrates subsidy level in scenario 5, the majority of people chose to change to eco-sanitary products when the subsidy given by the government is more than 30% of the total eco-sanitary product price. The second graph shows the water tariff graph and the majority of respondent chose to buy eco-sanitary products when the increase of water tariff is more than 20% while the second largest is the first level of water tariff increase.

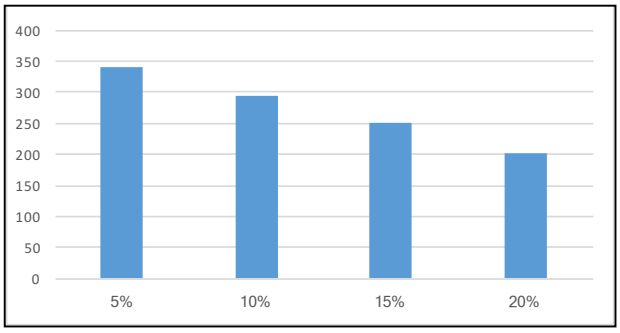


Figure 4.20 Combination 3 WTP Result

The graph above shows the willingness to pay level starting from 5% to 20% with a 5% margin in each level. From the graph we can see that with the increase of product's price is followed by the decrease of people that are willing to buy the product.

d. Medium income whom aware of water crisis

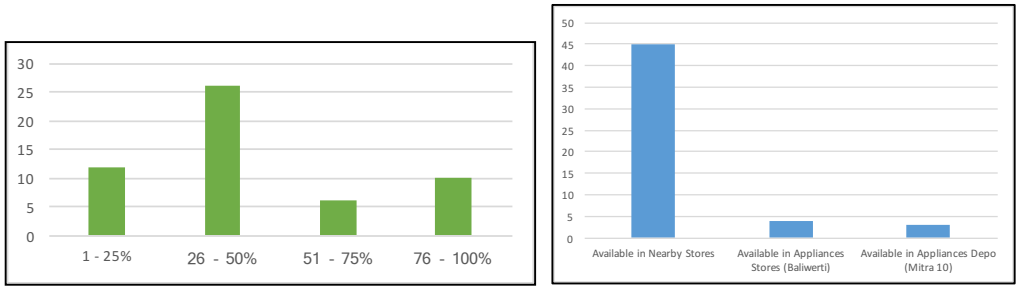


Figure 4.21 Combination 4 Availability and Neighboring Result

The graph above shows the neighboring factor and availability level. The neighboring factor result with the peak in the second level followed by the first level as the second largest. Meanwhile, the availability shows that the majority of people willing to buy eco-sanitary products to the nearby small appliances stores.

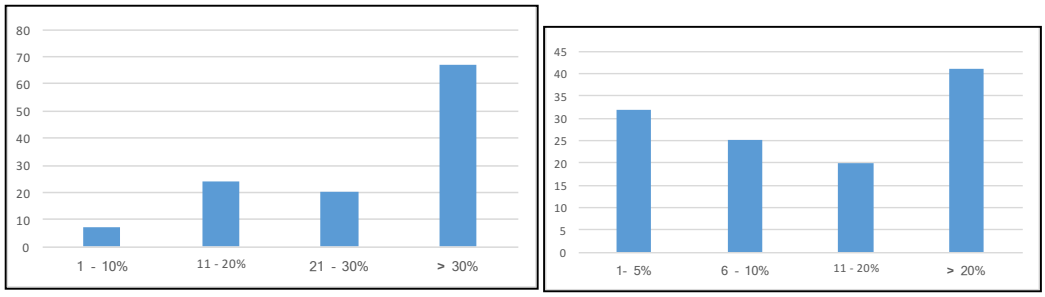


Figure 4.22 Combination 4 Subsidy and Water tariff Result

The graph above shows subsidy level in scenario 5, the majority of people chose to change to eco-sanitary products when the subsidy given by the government is more than 30% of the total eco-sanitary product price. The second graph shows the water tariff graph and the majority of respondent chose to buy eco-sanitary products when the increase of water tariff is more than 20% while the second largest is the first level of water tariff increase.

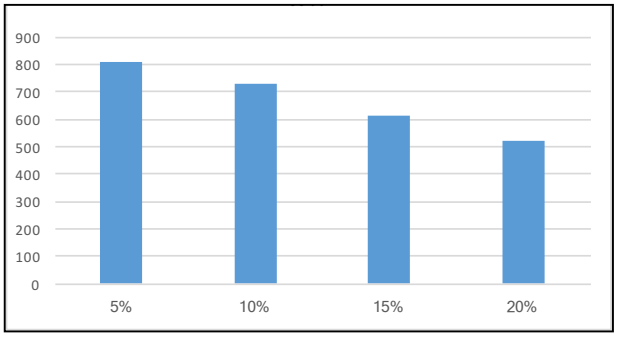


Figure 4.23 Combination 4 WTP Result

The graph above illustrates the willingness to pay level starting from 5% to 20% with a 5% margin in each level. From the graph we can see that with the increase of product's price is followed by the decrease of people that are willing to buy the product.

e. High income whom not aware of water crisis

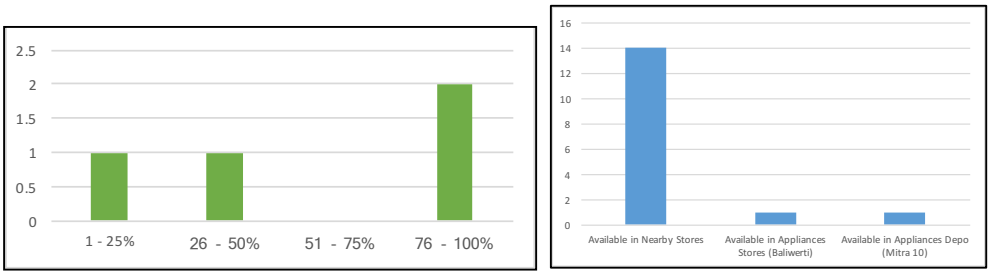


Figure 4.24 Combination 5 Availability and Neighboring Result

The two graph above shows the result regarding the neighboring factor and the availability of eco-sanitary products for high income and not aware type of household. The neighboring factor result shows that the majority of people chose to convert to eco-sanitary products at the highest percentage. Meanwhile, if we look at the availability graph, the majority also shows that the majority of people willing to buy eco-sanitary products to nearby small appliances stores.

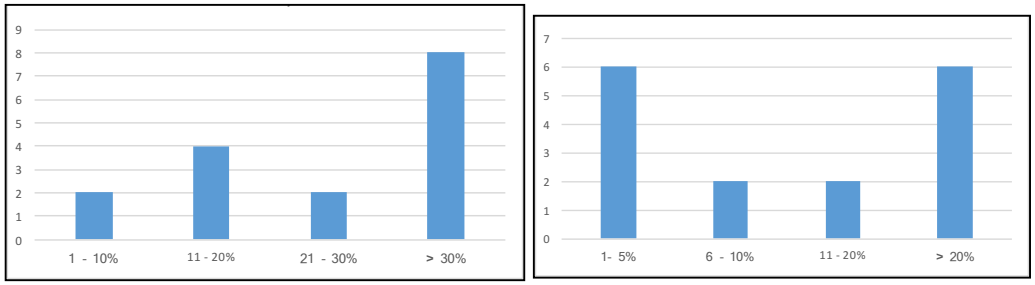


Figure 4.25 Combination 5 Subsidy and Water tariff Result

The subsidy graph shows that the majority of people willing to buy eco-sanitary products if the government gives subsidy of more than 30%. Meanwhile, the respondent willing to change to eco-sanitary products if the water tariff increase to the first level of percentage or more than 20%.

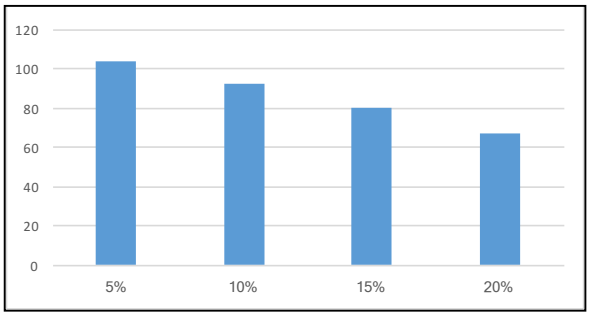


Figure 4.26 Combination 5 WTP Result

The graph above shows the willingness to pay for high income and aware type of household. The result is the most popular preferred percentage is 5% followed by a steady decrease over the increase of the percentage value.

f. High income whom aware of water crisis

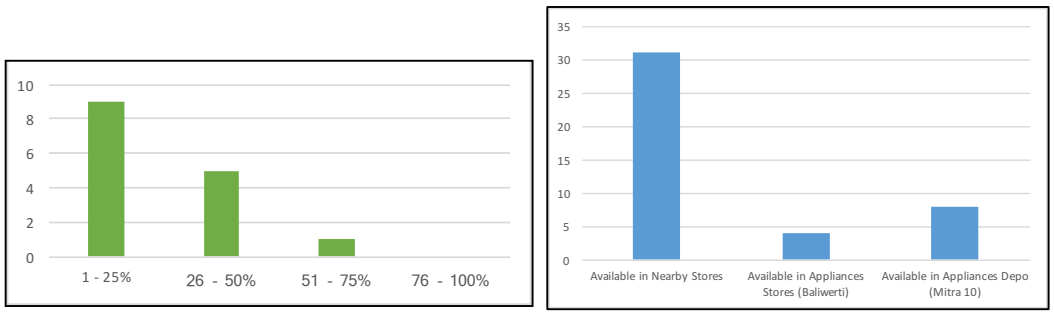


Figure 4.27 Combination 6 Availability and Neighboring Result

The two graph above shows the result regarding the neighboring factor and the availability of eco-sanitary products for high income and not aware type of household. The neighboring factor result shows that the majority of people chose to convert to eco-sanitary products at the lowest percentage followed by a steady decline over the increase of the percentage. Meanwhile, if we look at the availability graph, the majority also shows that the majority of people willing to buy eco-sanitary products to nearby small appliances stores.

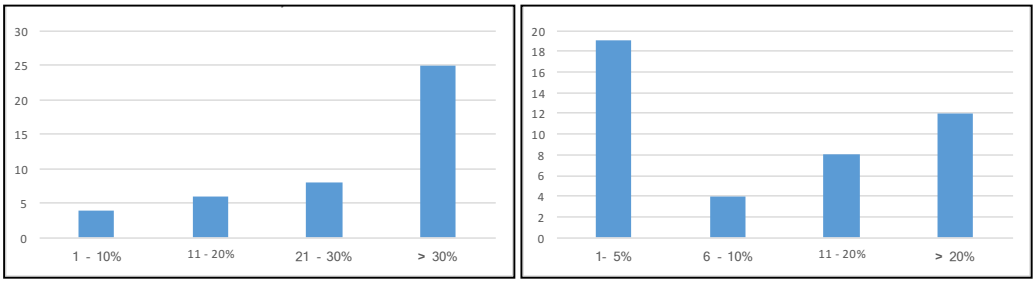


Figure 4.28 Combination 6 Subsidy and Water tariff Result

The subsidy graph shows that the majority of people willing to buy eco-sanitary products if the government gives subsidy of more than 30%. Meanwhile, the respondent willing to change to eco-sanitary products if the water tariff increase to the first level of percentage which is 1 to 5%

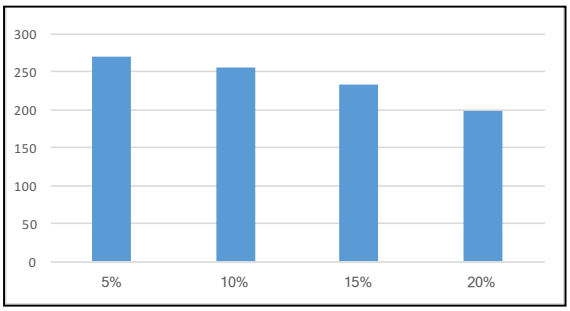


Figure 4.29 Combination 6 WTP Result

The graph above shows the willingness to pay for high income and aware type of household. The result is the most popular preferred percentage is 5% followed by a steady decrease over the increase of the percentage value.

In conclusion, if we look at the ESP factor preferences for each types of households, there are several differences. Hence, almost all types of household have the same result. The overall result for the ESP factor is explained below.

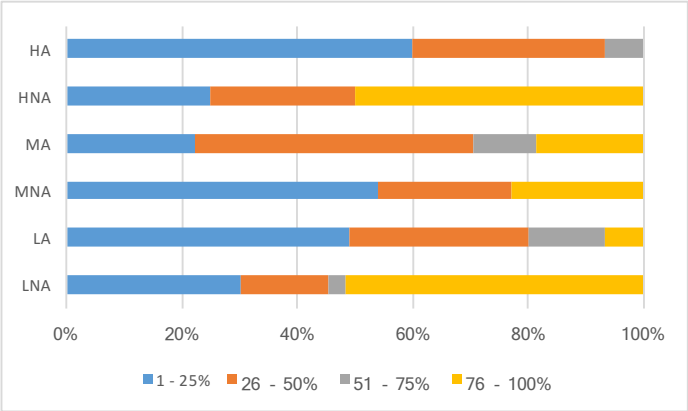


Figure 4.30 Overall Neighboring Influence Result

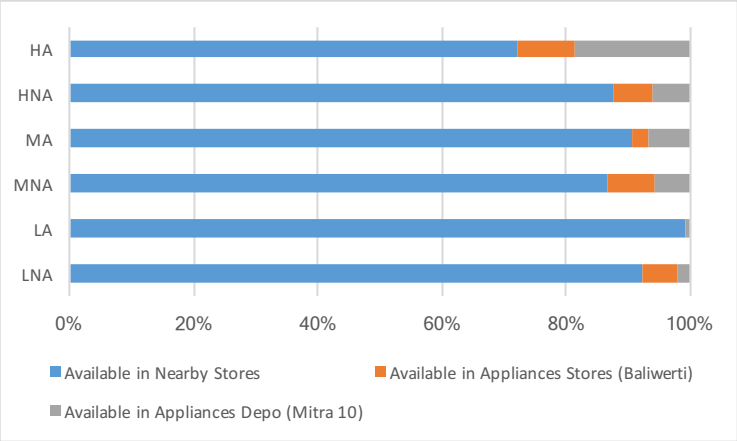


Figure 4.31 Overall Availability Factor Result

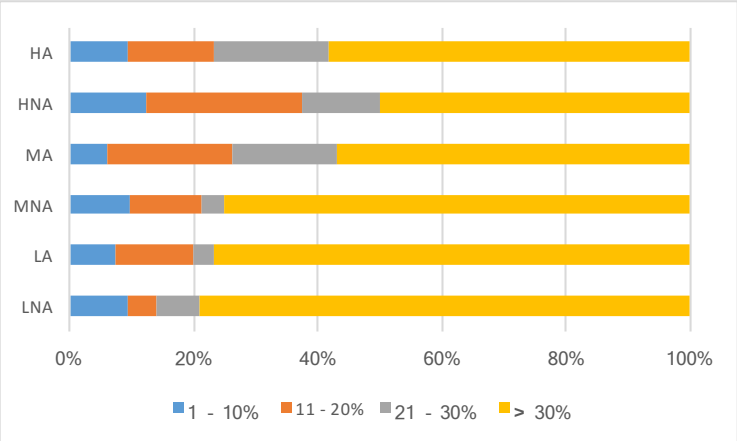


Figure 4.32 Overall Subsidy Factor Result

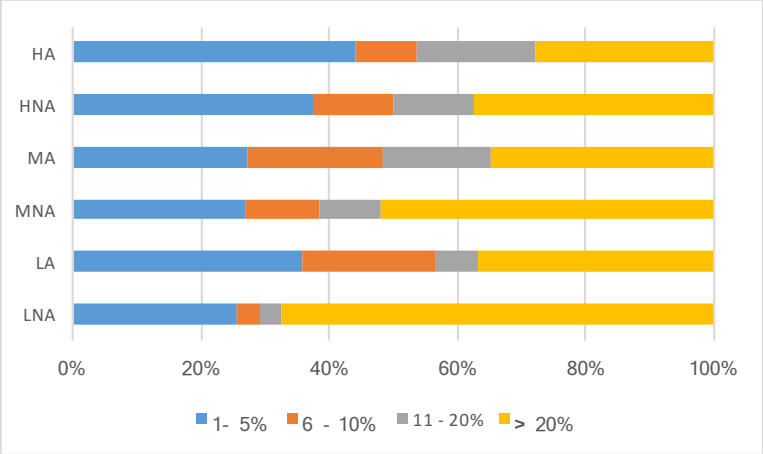


Figure 4.33 Overall Increase of Water Tariff Result

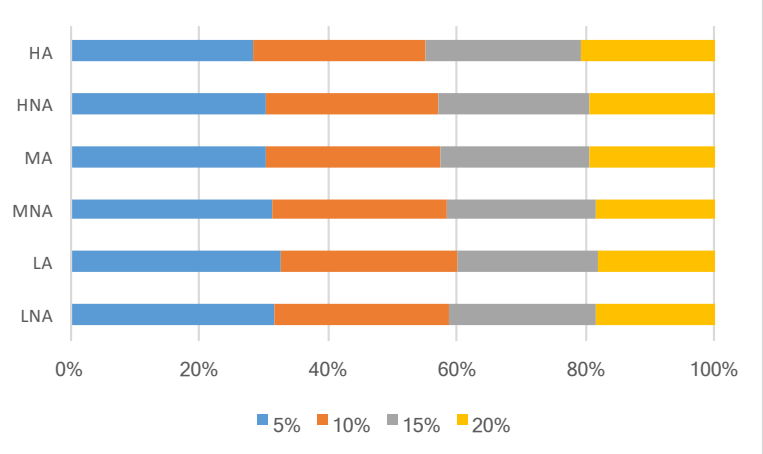


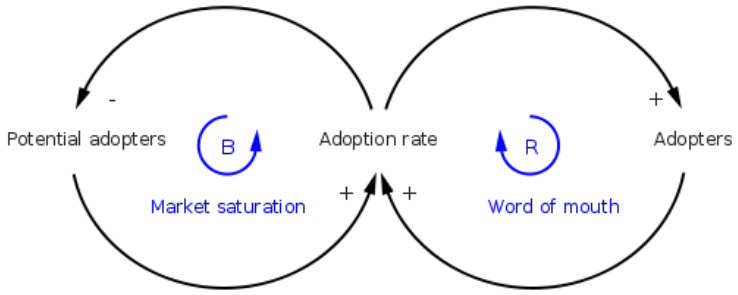
Figure 4.34 Overall WTP Result

CHAPTER 5
SIMULATION MODELING

This chapter consists of the simulation modelling. The simulation modelling uses agent-based modeling simulation. The simulation modeling process starts from conceptual modeling, causal loop diagram, etc.

5.1 Causal Loop Diagram

This sub-chapter explains about the causal loop diagram of the simulation model. The causal loop diagram is needed to know the cause and effect between each relationship's interaction. The causal loop is initially generated by the adoption of other product's model. The causal loop of the initial model is described below.



The initial causal loop diagram shows the simple model of adoption of CLD product. There are only 3 entities in the initial mode which are potential adopters, adoption rate, and adopters. The loop itself divided by 2 types which are word of mouth and market saturation. The initial model is considered suitable since it utilizes the same hypothetical model. The model is therefore improved to accommodate this research's problem that are stated in the previous chapter. The potential adopters in this case is the household within Surabaya area while adopters are the households that already implement eco-sanitary products. The word of mouth represents the environment or the neighboring factor of the model. The market saturation itself represents the saturated use of eco-sanitary products which in this case is until 100%. The adoption rate from the initial model is further

developed by adding all of the agents that affects the use of eco-sanitary products which are appliances stores, PDAM, and city government. The model is improved by adding specific agents and interaction amongst it.

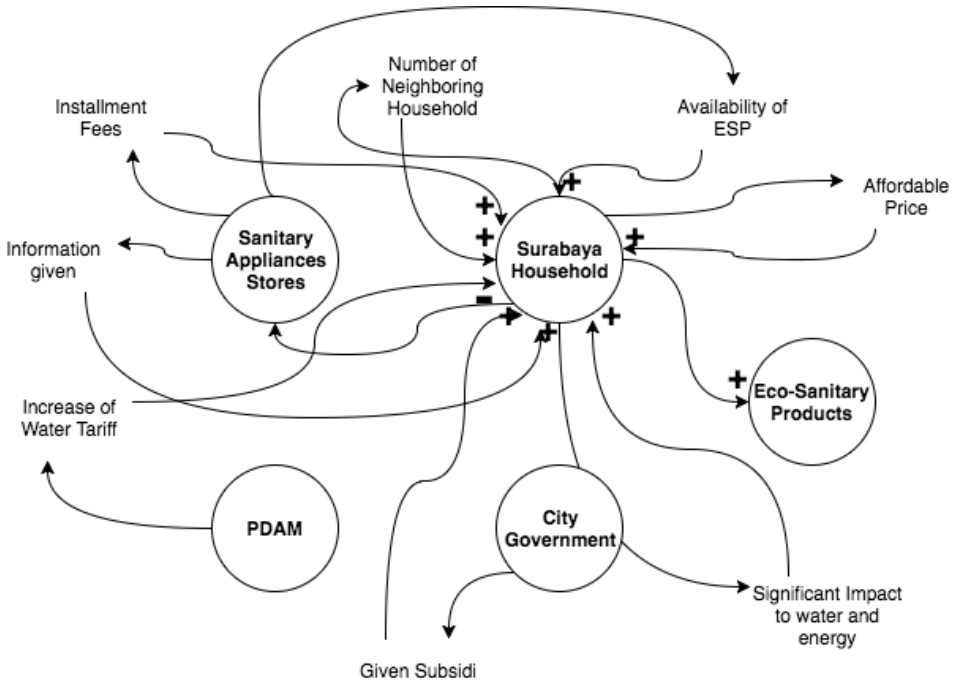


Figure 5.1 Causal Loop Diagram

Based on the causal loop diagram above, we can see that there are 4 main agents in the system which are household, PDAM, sanitary appliances store, and city government. Each agent has its own attribute that prompts other agents to change its decision making. For example, sanitary appliances store agent may give free installment fee to customers for buying eco-sanitary products. It will alter the decision making of the household itself wether to buy the eco-sanitary wares or not. Morover, all arrows lead to eco-sanitary household agent. Hence, there are variables that may reduce the value of eco-sanitary household which is increase in water bill. Other than that, all variables or attributes have a positive relationship towards eco-sanitary household.

5.2 Simulation Model with Agent-based Modeling and Simulation

This sub-chapter explains about the agent's role and its own programming language. There are several agents discussed in this sub-chapter which are household, Surabaya city government, PDAM, and home appliances shop or retailer. However, not all agents are illustrated in the simulation model physically. The other agents that are not illustrated physically will be embedded in the form of experimental factors of the agents that were illustrated in the hypothetical model. The agents that are illustrated physically in the simulation model is the household agent representing Surabaya people. Respectively, it is categorized into three depending on the income level.

5.2.1 Programming Algorithm Flow

This chapter explains about the flow of programming algorithm in the simulation software. Algorithm is a set of order that assigned logicaly and systematically to solve the current problem. The programming algorithm flow starts with making the agents which in this case is the household agents. The household agent is divided into two types which is the household that already use eco-sanitary products and household that haven't use eco-sanitary products. The percentage of each type of household agent is obtained by the questionnaire data result. After the types is determined, we assign the behavioral rule which in this case is level of income and awareness regarding water crisis which were obtained from the previous chapter since only those two factors affect the use of eco-sanitary products. After that, the ESP threshold is defined for each agent type which makes the agents with supporting behaviors will have higher threshold that will make the current agent easier to change. For example, agent with higher income and aware about water crisis will be easier to change compared to those whom has lower education and not familiar with eco-sanitary products. The scenarios will have the objective to add the actual-esp value to reach the threshold line. Each agent's response to the scenario is unique since it depends on the scenario influence percentage based on the preference rank from the previous chapter. Therefore, if the agent's actual-esp value reaches the threshold line, the agent will change household that uses eco-sanitary products. The programming algorithm flow is described below.

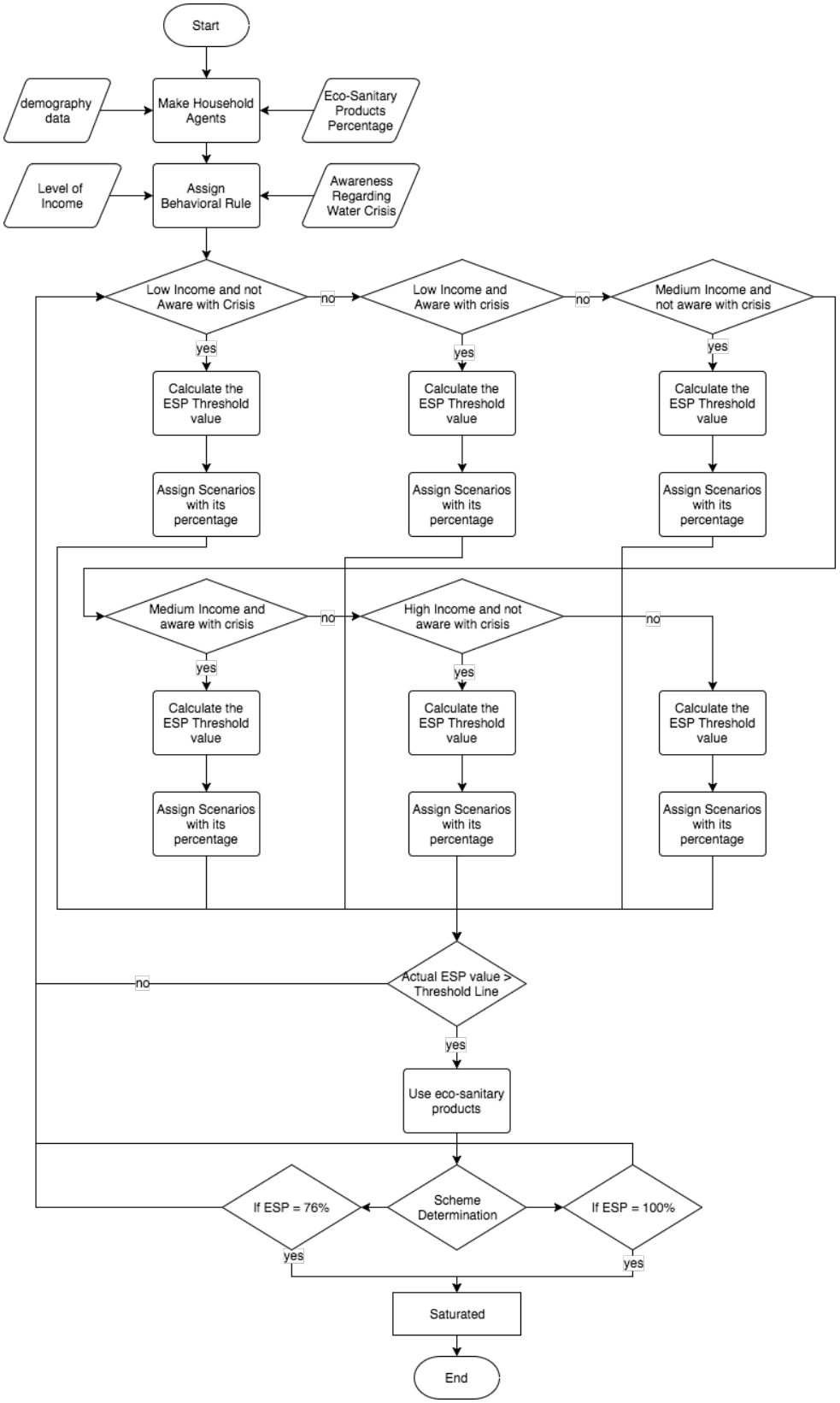


Figure 5.2 Programming Algorithm Flowchart

5.2.2 Simulation Model Interface

This chapter explains about the simulation model interface. In the simulation model interface has several features such as plot, button, chooser, monitor. The button feature is used to control the "setup" and "go". The chooser feature is used to control the qualitative scenarios such as information, availability, and installment fee strategy. The plot feature is to illustrate the graph of the number of household with eco-sanitary products and without. The monitor feature is to show the percentage value of each household type. The patches feature is used to illustrate the environment of the simulation model that are made. Those patches is the place to embed the agents itself. The slider feature is used to control the quantitative experimental factors such as subsidy, increase of water bill, etc. The simulation model interface is illustrated below.

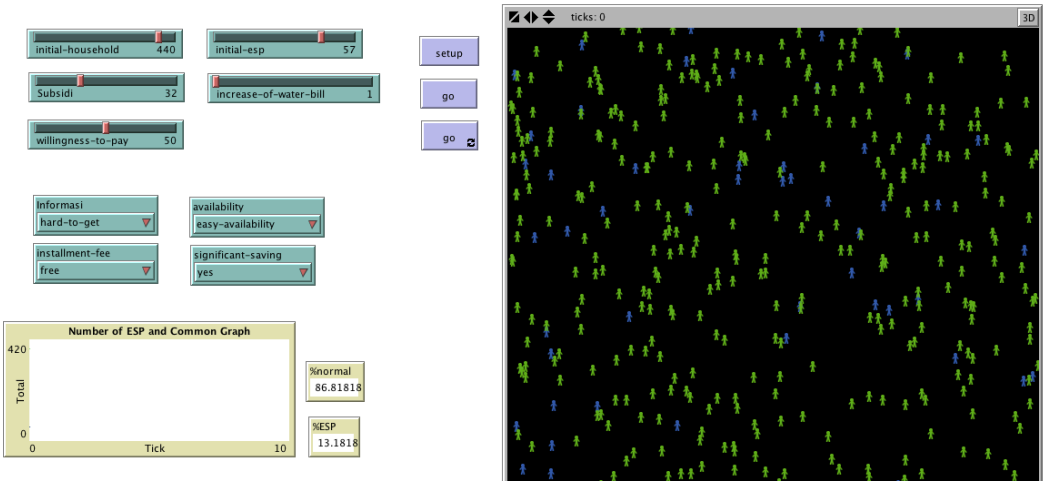


Figure 5.3 Model Interface

5.2.3 Simulation Model Features Explanation

This chapter contains the explanation of each simulation model features explained in the previous chapter. The first feature that discussed is the button feature. In the simulation model, there are 3 buttons that is used which are "setup", "go", and "go-once". This is the primary feature in the simulation model since it controls the start and the end of the simulation itself. The three buttons have its own different function for the simulation model.

Figure 5.4 Button

The “setup” button is the button that allows the simulation model to prepare or setup the simulation model. This button will start the application to make the environment and the agents inside it. After the “setup” button is pressed, the patches screen will reset and give new simulation model. The number of household types depends on the number that are inputed. Hence, the total number of household in the simulation model remains the same which is 100 households. The programming language of the “setup” button is described below.

```
turtles-own[
willing-to-use-esp
actual-esp ; actual value of influence
level-of-income ;; there are 3 type which is Low, Medium, and High level of income.
level-of-awareness? ;; true and false. if true the agent have awareness about water crisis. if false the agent hasnt have awareness.
minimum-esp ;; minimum value to change become esp
]

to setup

  clear-all
  setup-household
  reset-ticks

end

to setup-household
  create-turtles initial-household

    [ setxy random-xcor random-ycor
      set shape "person"
```

Figure 5.5 “Setup” Programming Algorithm

The “go” and “go-once” button is similar to one another. “go” button allows the simulation to run continuously while “go-once” allows the simulation to run to one tick. Both buttons will start the simulation model according to the programming language that have been developed. When pressing this button, the agent will move inside the given environment randomly and may influence other agents according to its surrounding spatial space. Agents also reponds to the experimental factors from other agents such as government, etc. The programming language of “go” is described below.

```
to go
 tick
if all? turtles [ color = blue ]
[ stop ]
  ask turtles [ move ]

  ask turtles [influence-process]

   ask turtles [ go-subsidi ]

   ask turtles [ go-water-bill ]

   ask turtles [ go-wtp ]

   ask turtles [ go-informasi ]

   ask turtles [ go-installment ]

   ask turtles [ go-availability ]

   ask turtles [ go-saving ]

   ask turtles [ threshold-line]

   ask turtles [assign-colour ]

end
```

Figure 5.6 “Go” Programming Algorithm

5.2.4 Experimental Factors Programming Language

This sub chapter explains the model’s experimental factors that are given to the simulation process. The experimental factors given are embedded in the questionnaire distributed in the previous chapter. There are 2 types of experimental factors which is quantitative experimental factors and qualitative experimental factors. The quantitative experimental factors are closely related to a variety of number options for example the amount of subsidy, the amount of water bill rise, etc. The qualitative experimental factors are closely related to a variety of condition options towards a model. For example, wether or not the information given to the customer related to eco-sanitary products is high to be able to alter the household’s decision making. There are 8 experimental factors that are given to the agents. Each of the agent’s experimental factors is explained below.

a. Subsidy

Subsidy if a quantitative experimental factors which means that the agents response is based on the value of the experimental factor in question. Basically, the

subsidy value result in the movement of household towards the water sensitive patch. The amount of movement depends on the corresponding household preference regarding subsidy and the value of the subsidy itself. As explained earlier, the agent's response to the subsidy depends on which agentset. Each type of household agent gives different response towards the experimental factor. The amount of movement among 10 types of household are vary. The example of subsidy programming language of household is given below.

```
to go-subsidi


 if level-of-income = 0 and not level-of-awareness?
  [
if subsidi > 0 and subsidi <= 10 [ set actual-esp (actual-esp +  ( 0.21 * random-float
if subsidi > 10 and subsidi <= 20 [ set actual-esp (actual-esp + ( 0.21 * random-float
if subsidi > 20 and subsidi <= 30 [ set actual-esp (actual-esp + ( 0.21 * random-float
if subsidi > 30 [ set actual-esp (actual-esp +                   ( 0.21 * random-float

 ]
```

Figure 5.7 Subsidy Programming Language Example

b. Increase of Water Bill

Increase of water bill is a quantitative experimental factor which makes the response of the agent depends on the increase value of the water bill itself. In simple, the increase of water bill makes the agent in the simulation go towards the water sensitive city patches. The amount of the movement depends on the value of the water bill. Therefore, the increase of water bill programming language for household is explained below.

```
to go-water-bill

if level-of-income = 0 and not level-of-awareness?
[
  if increase-of-water-bill > 0 and increase-of-water-bill <= 5 [ set actual-esp (actual-esp +   ( 0.08 * random-float
  if increase-of-water-bill > 5 and increase-of-water-bill <= 10 [ set actual-esp (actual-esp +  ( 0.08 * random-float
  if increase-of-water-bill > 10 and increase-of-water-bill <= 15 [ set actual-esp (actual-esp + ( 0.08 * random-float
  if increase-of-water-bill > 15 and increase-of-water-bill <= 20 [ set actual-esp (actual-esp + ( 0.08 * random-float
```

Figure 5.8 Water Bill Increase Programing Language Example

c. Willingness to Pay

Willingness to Pay is a quantitative experimental factor which makes the response of the agent depends on the willingness to pay itself. In simple, the willingness to pay makes the agent in the simulation go towards the water sensitive city patches. The amount of the movement depends on the value of the willingnesss

to pay. Therefore, the willingness to pay programming language for household is explained below.

```
to go-wtp

if level-of-income = 0 and not level-of-awareness? [

  if willingness-to-pay > 0 and willingness-to-pay <= 5 [ set actual-esp (actual-esp +   ( 0.15 * random-float
  if willingness-to-pay > 5 and willingness-to-pay <= 10 [ set actual-esp (actual-esp +  ( 0.15 * random-float
  if willingness-to-pay > 10 and willingness-to-pay <= 15 [ set actual-esp (actual-esp + ( 0.15 * random-float
  if willingness-to-pay > 15 and willingness-to-pay <= 20 [ set actual-esp (actual-esp + ( 0.15 * random-float
```

Figure 5.9 WTP Programming Language Example

d. Installment Policy

Installment policy is a qualitative experimental factor which enables the agents to respond towards a certain given condition. The condition itself is the installment policy which has two options which is free and paid installment fees towards the application of eco-sanitary products. The response of household is different for each household category. The installment policy programming language for household is explained below.

```
to go-installment

  ifelse installment-fee = "free"
  [ go-free-installment ]
  [ go-paid-installment ]

end
```

Figure 5.10 Installment Policy Programming Language

e. Level of Information Given

Level of information is a qualitative experimental factor which enables the agents to respond towards a certain given condition. The condition itself is the information level which has two options which are easy to get and hard to get in terms of information. The response of household is different for each household category. The level of information programming language for household is explained below.

```
to go-informasi

  ifelse informasi = "easy-to-get"
  [ go-easy-info ]
  [ go-hard-info ]

end
```

Figure 5.11 Information Programming Language Example

f. Product Availability

Product availability is a qualitative experimental factor which enables the agents to respond towards a certain given condition. The condition itself is the product availability which has three options which are low, medium, and high availability. The availability types itself represents where the product is able to be bought. The response of household is different for each household category. Product availability programming language for household is explained below.

```
to go-availability
  if availability = "hard-availability"
  [ go-hard-availability ]
  if availability = "easy-availability"
  [ go-easy-availability ]


end
```

Figure 5.12 Availability Programming Language Example

g. Neighboring Factor

Neighboring factor is one of the scenarios that given to the household as their decision making process. The neighboring factor itself uses the spatial space of the households in order to influence other household in the spatial area. Only household that already use eco-sanitary products able to influence household that haven't use eco-sanitary products. The neighboring factor programming language is discussed below.

```
to influence-process

  if willing-to-use-esp
    [ask turtles-on neighbors
        [ if not level-of-awareness? and level-of-income = 0
          set actual-esp (actual-esp + ( 0.08 * random-float
        if level-of-awareness? and level-of-income = 0 [
          set actual-esp (actual-esp + (0.11 * random-float :
```

Figure 5.13 Neighboring Factor Programming Language Example

h. Significance Saving of Energy

Significance saving of energy is a qualitative experimental factor which enables the agents to respond towards a certain given condition. The condition itself is the Significance saving of energy which has two options which are yes and no. The response of household is different for each household category. Product

significance saving of energy programming language for household is explained below.

```
to go-saving

  ifelse significant-saving = "yes"
  [ go-yes-saving ]
  [ go-no-saving ]

end
```

Figure 5.14 Significance Impact Programming Language Example

5.3 Model Validation and Verification

This chapter explains about the model validation and verification tests. Verification is important in simulation modeling using NetLogo since it is built using programing algorithm code and the error potential in building the code is high. Verification test can be done using the "Check" button in the code section. If no notifications or comments after we click the "check" button it means that the programming language that we have built is verified or it has no error in the programming language. The picture below shows the verification test result of the simulation model.

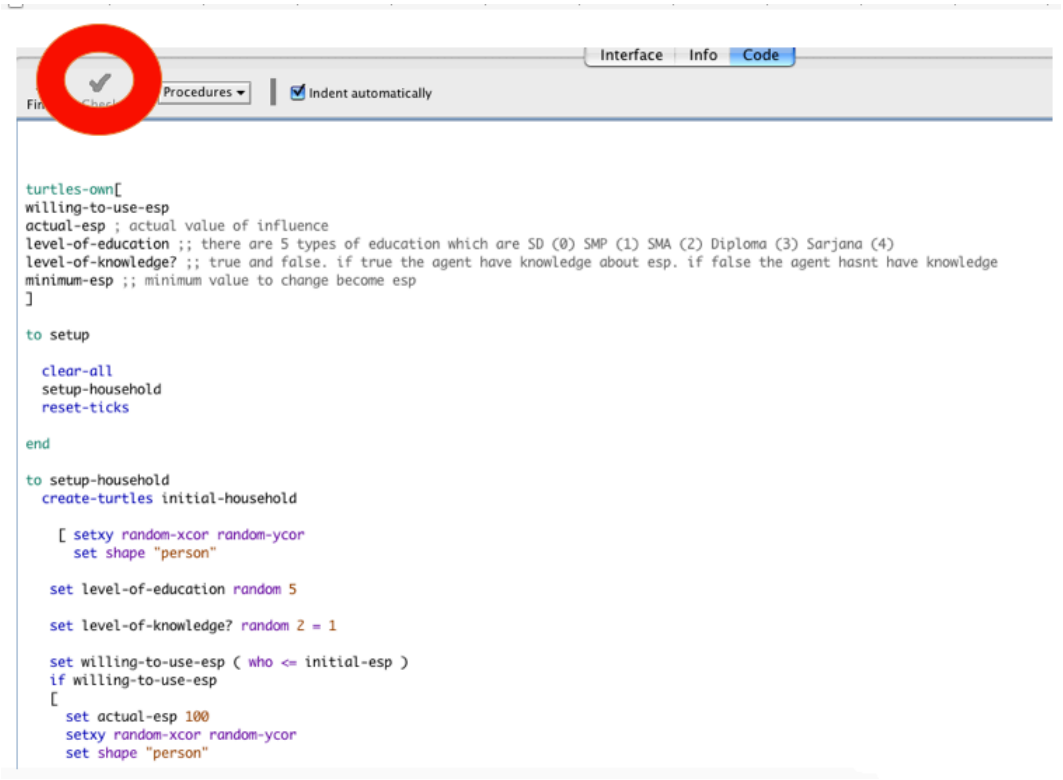


Figure 5.15 Verification Process

As you can see from the verification test result above that after the “check” button is pressed there were no notification and comments that appear from the Netlogo software. It means that the programming language has no error in the simulation model and that the simulation model has been verified.

After the model is verified, the validation test is needed to be done in order to know whether the model is representing the existing system in the question. Since there is no system’s performance measurement, the validation process is based on the data that embedded on the model. Therefore, the household type data source is from the Surabaya BPS household expenses which were expressing the types of household based on income level. The level of awareness types of household data was gathered using primary data from the questionnaire. Since all of the inputs of the simulation model have been clarified, we can say that the model is valid.

CHAPTER 6
SCENARIO AND STRATEGY EVALUATION

This chapter explains about the scenario and strategy evaluation based on the simulation process. The selection of scenario will use Design of Experiment (DOE) method.

6.1 Design of Experiment Scheme

This chapter explains about the design of experiment scheme that are done in this research. The initial factors of the model consist of 8 factors with a variety of level from 2 to 5 levels. There are several types of DOE that are suitable for this problem statement. One example of DOE type that we can use is full factorial DOE. Hence, the full factorial DOE requires all levels of factors to be experimented and will take more time. The full factorial DOE number of experiments equation is as explained below

$$Number\ of\ Experiments = X1^{y1} + X2^{y2} + Xn^{yn}$$

$$Number\ of\ Experiments = 5^1 + 4^3 + 3^1 + 2^3$$

$$Number\ of\ Experiments = 7{,}680$$

Where:

- Xn : Number of levels in the current factor
- Yn : Factor in the current level

Based on the result above, if we use full factorial type of DOE will require the modeler to find 7,680 combinations regarding levels and factors of the proposed scenario. Therefore, the full factorial type of DOE is not suitable since it requires many experiments.

Other type of DOE that can be used is DOE Taguchi. DOE Taguchi allows the modeler to reduce the number of experiments to a minimum number. DOE Taguchi considered suitable because it can save time by reducing the number of experiments. In commencing DOE Taguchi, we use minitab software to configure

the orthogonal array of the problem. The levels of the factors were also simplified to only 2 varieties which is 3 factors of 4 levels and 5 factors of 2 levels based on the DOE Taguchi design table that are available in the software. DOE Taguchi using Minitab allows us to know which optimum value within each factor's levels.

The DOE Taguchi will be done twice using two different scheme. The first scheme is to end to simulation process when all (100%) household agents use eco-sanitary products. The second scheme is to end the simulation process when 76% of the household agent use eco-sanitary products. Those schemes value are justified based on the improved sanitary data comparison between developed and developing countries. Therefore, based on the data obtained that the percentage of people that already utilize improved sanitation in developed country is around 99 to 100% while the developing countries only has a value around 76% (CIA World Factbook). Improved sanitation defined as the sanitation utilities already use flush and have sanitation system to retain the human excreta such as the application of septic tanks. On the other hand, unimproved sanitation defined as the sanitation utilities that use pour-flush and doesn't have such sanitation system such as septic tank, etc.

6.2 Design of Experiment Factors and Levels Determination

This chapter explains about the factor and level determination of the design of experiment. As explained before, the levelling within factors are simplified. The comparison between the initial level of factors with the simplified level of factors is shown below.

Table 6.1 Initial Factor and Levels

No	Code	Factor	Level	Code
1	X1	Number of Neighboring	1 - 25%	1
			26 - 50%	2
			51 - 75%	3
			76 - 100%	4
2	X2	Availability of Product	Low	1
			Medium	2
			High	3
3	X3	Affordable Price (WTP)	5%	1
			10%	2
			15%	3

Table 6.1 Initial Factor and Levels

No	Code	Factor	Level	Code
			20%	4
			25%	5
4	X4	Significant Impact on Energy and Water	No	1
			Yes	2
5	X5	Subsidy	1 - 10%	1
			11 - 20%	2
			20 - 30%	3
			> 30%	4
6	X6	Water Tariff Increase	1 - 5%	1
			6 - 10%	2
			11 - 20%	3
			> 20%	4
7	X7	Information	Hard to obtain	1
			Easy to Obtain	2
8	X8	Installation Fees	Free Installation Fee	1
			Paid Installation Fee	2

From the table above we can see that there are variety of levels within the factors. As discussed above, several factors need to be reduced in terms of its level. Therefore, neighboring factor, availability, and willingness to pay levels are reduced. The neighboring factor level is reduced from 4 levels to only 2 levels or binary which is whether the household may be influenced by its surrounding or not. The availability factor is also reduced to binary options which is whether the eco-sanitary products are easily obtained or hard to be obtained. The willingness to pay factor is also reduced from 5 to 4 level which delete the biggest value which is 25% and embed it into the more than 20% option. From the changes above we can determine the new factor and levels which is illustrated in the table below.

Table 6.2 Simplified Factor and Levels

Code	Factor	Level	Code
4 Level			
X5	Subsidy	1 - 10%	1
		11 - 20%	2

Table 6.2 Simplified Factor and Levels

Code	Factor	Level	Code
		20 - 30%	3
		> 30%	4
X3	Affordable Price (WTP)	5%	1
		10%	2
		15%	3
		>20%	4
X6	Water Tariff Increase	1 - 5%	1
		6 - 10%	2
		11 - 20%	3
		> 20%	4
2 Level			
X1	Number of Neighboring	Not affected by neighbors	1
		Affected by neighbors	2
X2	Availability of Product	Hard to obtain	1
		Easy to obtain	2
X7	Information	Hard to obtain	1
		Easy to Obtain	2
X8	Installation Fees	Free Installation Fee	1
		Paid Installation Fee	2
X4	Significant Impact on Energy and Water	No, it has no significant impact	1
		Yes, it has significant impact	2

6.3 Design of Experiment Scheme I

This chapter explains about the design of experiment process. This chapter includes the DOE of the first scheme which is 100%.

6.3.1 Orthogonal Array

The first step in order to commence design of experiment is to develop the orthogonal array. As discussed before, the purposed DOE type is DOE Taguchi. Therefore, the orthogonal array is developed based on the DOE Taguchi design tables with 8 factors with 4 and 2 levels. Based on the taguchi table, the purposed orthogonal array is L16 which is illustrated below.

Table 6.3 Orthogonal Array for Scheme I

Experiment no	Scenarios / Factors							
	X5	X3	X6	X1	X2	X7	X8	X4
1	1	1	1	1	1	1	1	1
2	1	2	2	1	1	2	2	2
3	1	3	3	2	2	1	1	2
4	1	4	4	2	2	2	2	1
5	2	1	2	2	2	1	2	1
6	2	2	1	2	2	2	1	2
7	2	3	4	1	1	1	2	2
8	2	4	3	1	1	2	1	1
9	3	1	3	1	2	2	2	2
10	3	2	4	1	2	1	1	1
11	3	3	1	2	1	2	2	1
12	3	4	2	2	1	1	1	2
13	4	1	4	2	1	2	1	2
14	4	2	3	2	1	1	2	1
15	4	3	2	1	2	2	1	1
16	4	4	1	1	2	1	2	2

From the Table above we can conclude that there are 16 number of experiments that needed to be done in performing DOE Taguchi. Hence, replications are needed to verify the result represents the combination. Therefore, 10 replications are done for all 16 experiments derived from the table above. The value that are inputted to the Minitab is the Mean value of all 10 samples. The tick itself represents the value of how many times the procedures were run. We can interpret the ticks as a time value of how much time needed in order to reach the corresponding output. The number of ticks for all 10 samples based on all 16 experiments are explained below.

Table 6.4 Orthogonal Array Result for Scheme I

No of sample	Experiment no															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1	67	47	58	49	43	41	45	62	31	47	49	51	33	38	41	40
2	66	48	55	48	41	43	45	62	32	48	50	50	33	39	41	41
3	70	45	54	50	42	41	44	63	30	48	50	50	32	39	47	41
4	68	46	55	48	39	41	47	64	32	47	50	53	34	39	43	41
5	67	46	55	51	43	43	47	63	30	47	49	53	35	40	48	42
6	65	48	57	49	43	41	44	60	31	48	51	54	34	41	43	40
7	66	46	56	48	42	42	43	61	31	46	52	52	31	39	42	39
8	65	46	57	48	40	42	44	62	30	45	49	51	34	38	43	40
9	66	47	53	49	40	43	45	61	29	48	50	50	36	40	42	42
10	65	46	55	50	41	41	42	61	33	47	50	49	32	39	44	39
Mean	66.5	46.5	55.5	49	41.4	41.8	44.6	61.9	30.9	47.1	50	51.3	33.4	39.2	43.4	40.5

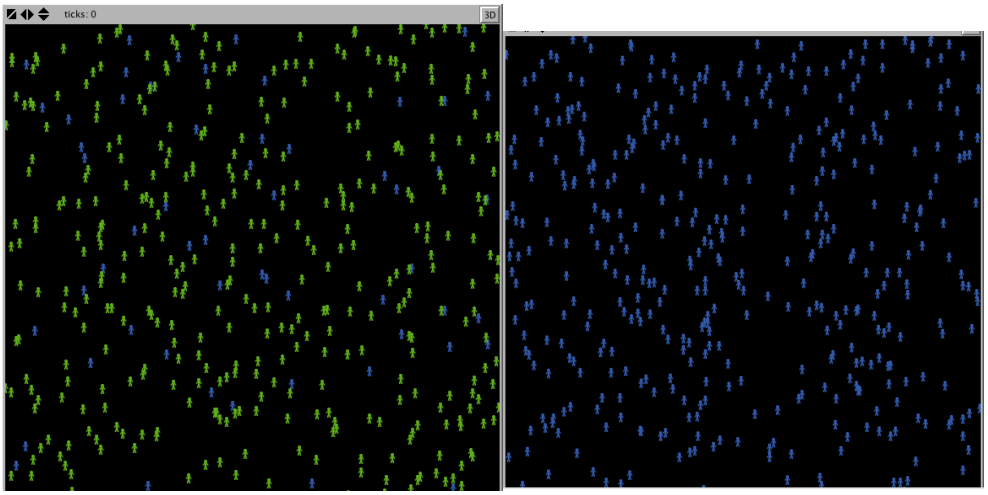


Figure 6.1 Scheme 1 Simulation Illustration

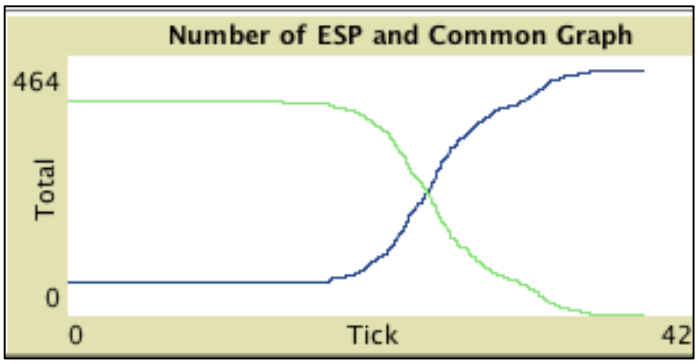


Figure 6.2 Scheme 1 ESP Growth Graph

6.3.2 ANOVA

This chapter shows the analysis of variance (ANOVA) result for each scenarios that were tested. The analysis of variance test can show which factor has the significant effect to the use of eco-sanitary products. Therefore, the hypothesis and the ANOVA result is shown in the table below.

Ho: There is no association between the two variables

Ho: Y is not correlated with factor Xn.

Ha: There is association between the two variables

Ha: Y is correlated with factor Xn

With significant level = 5% or 0.05

Where:

$F_{count} < F_{table}$ = Accept **Ho**

(There is no association between Xn and Y)

$F_{count} < F_{table}$ = Reject **Ho**

(There is association between Xn and Y)

Table 6.5 ANOVA Result for Scheme I

Analysis of Variance for Y, using Adjusted SS for Tests						
Source	**DF**	**Seq SS**	**Adj SS**	**Adj MS**	**F**	**P**
X5	3	480.208	480.207	160.069	27.79	0.138
X3	3	163.882	163.882	54.607	9.48	0.233
X6	3	79.752	79.752	26.584	4.62	0.327
X1	1	24.502	24.503	24.503	4.25	0.287
X2	1	119.903	119.903	119.903	20.82	0.137
X7	1	53.29	53.29	53.29	9.25	0.202
X8	1	216.09	216.09	216.09	37.52	0.103
X4	1	182.25	182.25	182.25	31.64	0.112
Error	1	5.76	5.76	5.76		
Total	15	1325..577				

After we obtain the F count of each scenario. We need to determine the F table as the justification weather to accept or reject Ho. Therefore, the F Table value is shown in the table below.

Table 6.6 F Table Results for Scheme 1

DF	**F Table**
3	7.814727903
1	3.841458821

From the table above we highlight the F coefficient value as the main justification for comparing the scenarios available. It shows that almost all scenario affects the use of eco-sanitary products. The only scenario that does not have association with Y is the increase of water tariff factor. All other scenario besides increase of water tariff is associated with Y because the F count value is higher than the calculated F table for each respective degree of freedom. Therefore, we can

interpret that almost all of the scenarios significantly affects the use of eco-sanitary products except for increase of water tariff factor scenario.

6.3.3 S/N Ratio

Taguchi introduced the S / N ratio or Signal to Noise Ratio approach to examine the effect of noise factors on the variations that arise. The type of S / N ratio depends on the desired characteristics. The S / N Ratio characteristics that are used in thi research is Smaller-the-Better (STB) whereas with decreasingly of the output means that the output is good. The S / N Ratio value for smaller-to-better characteristics is explained below.

$$SN\ STB = -10 \log \left[\frac{1}{n} \sum_{i=1}^{n} y_i^2 \right]$$

where n is the number of experiments that are done.

Therefore, the S/N Ration for smaller the better characteristic result is shown in the graph below.

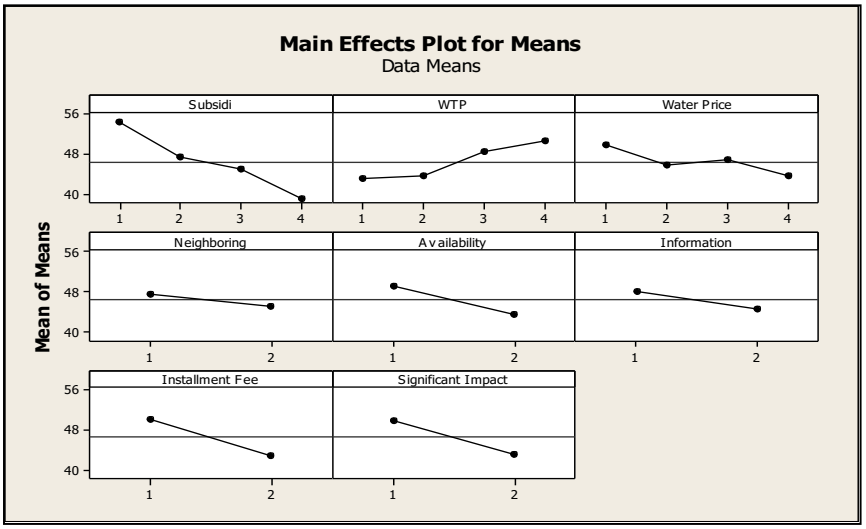


Figure 6.3 Main Effect for Means Scheme I

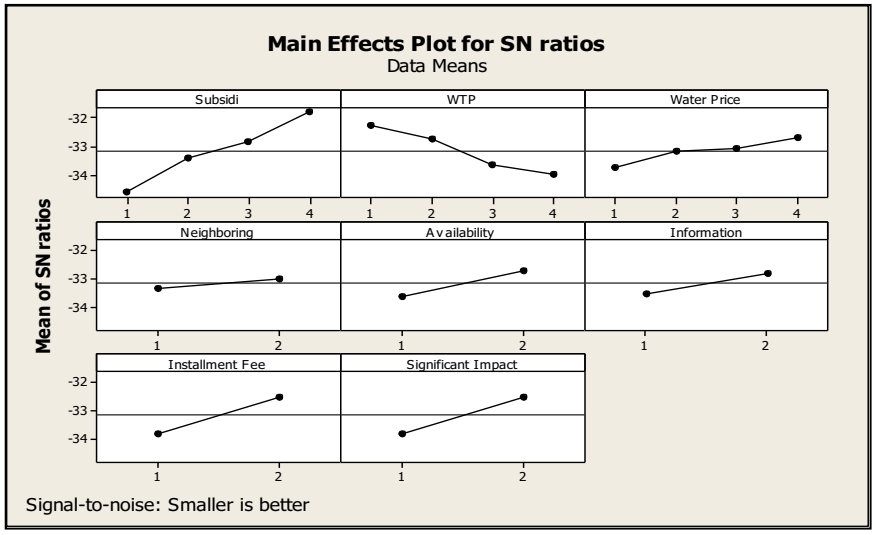


Figure 6.4 Main Effect for S/N Ratio Scheme I

The two graphs above represent each factor that were tested with its level within the factor. The two show the same interpretation. The graph shows which level in each factor with the highest effect on the output of the experiment. If we look at the Figure 6.2, we can see that the main effect is the level that has the highest value among other level. In fact, the subsidy scenario has the highest effect on the fourth level and the lowest effect on the first level. The willingness to pay scenario has the highest effect on the first level and steadily decrease as the level increases. The highest effect on the water tariff is in the 4^{th} level and the first level as the lowest effect on the use of eco-sanitary products. The neighboring factor has 2 levels and not significantly different. Hence, the second level shows slightly higher effect on the output compared to the first level. The availability shows that the second level has the higher effect on the use of eco-sanitary products compared to the first level. The information scenario shows that the second level has the higher effect on the output. Installment fee and significant impact on energy and water use shows a big difference on the value of the first level and the second level. Therefore, the second level has the higher effect on the use of eco-sanitary products for those two scenarios.

Table 6.7 Scheme 1 S/N Ratio Overall Result

Code	Factor	Level	Code
4 Level			
X5	Subsidy	1 - 10%	1
		11 - 20%	2
		20 - 30%	3
		> 30%	4
X3	Affordable Price (WTP)	5%	1
		10%	2
		15%	3
		>20%	4
X6	Water Tariff Increase	1 - 5%	1
		6 - 10%	2
		11 - 20%	3
		> 20%	4
2 Level			
X1	Number of Neighboring	Not affected by neighbors	1
		Affected by neighbors	2
X2	Availability of Product	Hard to obtain	1
		Easy to obtain	2
X7	Information	Hard to obtain	1
		Easy to Obtain	2
X8	Installation Fees	Paid Installation Fee	1
		Free Installation Fee	2
X4	Significant Impact on Energy and Water	No, it has no significant impact	1
		Yes, it has significant impact	2

6.4 Design of Experiment Scheme 2

This chapter explains about the design of experiment process. This chapter includes the DOE of the first scheme which is 100%.

6.4.1 Ortoghonal Array

The first step in order to commence design of experiment is to develop the orthogonal array. As discussed before, the purposed DOE type is DOE Taguchi. Therefore, the ortoghonal array is developed based on the DOE Taguchi design

tables with 8 factors with 4 and 2 levels. Based on the taguchi table, the purposed ortoghonal array is L16 which is illustrated below.

Table 6.8 Ortoghonal Array for Scheme 2

Experiment no	Scenarios / Factors							
	X5	X3	X6	X1	X2	X7	X8	X4
1	1	1	1	1	1	1	1	1
2	1	2	2	1	1	2	2	2
3	1	3	3	2	2	1	1	2
4	1	4	4	2	2	2	2	1
5	2	1	2	2	2	1	2	1
6	2	2	1	2	2	2	1	2
7	2	3	4	1	1	1	2	2
8	2	4	3	1	1	2	1	1
9	3	1	3	1	2	2	2	2
10	3	2	4	1	2	1	1	1
11	3	3	1	2	1	2	2	1
12	3	4	2	2	1	1	1	2
13	4	1	4	2	1	2	1	2
14	4	2	3	2	1	1	2	1
15	4	3	2	1	2	2	1	1
16	4	4	1	1	2	1	2	2

From the Table above we can conclude that there are 16 number of experiments that needed to be done in performing DOE Taguchi. Hence, replications are needed to verify the result represents the combination. Therefore, as explained before, 10 replications are done for all 16 experiments derived from the table above. The value that are inputted to the Minitab is the Mean value of all 10 samples. The tick itself represents the value of how many times the procedures were run. We can interpret the ticks as a time value of how much time needed in order to reach the corresponding output. The number of ticks for all 10 samples based on all 16 experiments are explained below.

Table 6.9 Orthogonal Array Result for Scheme 2

No of sample	Experiment no															
	1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
1	50	33	37	39	32	29	27	40	23	35	42	38	25	29	31	32
2	50	34	35	38	31	30	27	40	24	36	43	38	25	29	31	33
3	53	32	34	40	32	29	26	41	23	36	43	38	24	29	35	33
4	51	33	35	38	29	29	28	42	24	35	43	40	26	29	32	33
5	50	33	35	41	32	30	28	41	23	35	42	40	26	30	36	34
6	49	34	36	39	32	29	26	39	23	36	43	41	26	31	32	32
7	50	33	35	38	32	29	26	40	23	35	44	39	23	29	32	31
8	49	33	36	38	30	29	26	40	23	34	42	38	26	29	32	32
9	50	33	33	39	30	30	27	40	22	36	43	38	27	30	32	34
10	49	33	35	40	31	29	25	40	25	35	43	37	24	29	33	31
Mean	**49.9**	**33.0**	**35.0**	**39.2**	**31.1**	**29.3**	**26.8**	**40.2**	**23.2**	**35.3**	**42.5**	**38.5**	**25.1**	**29.4**	**32.6**	**32.4**

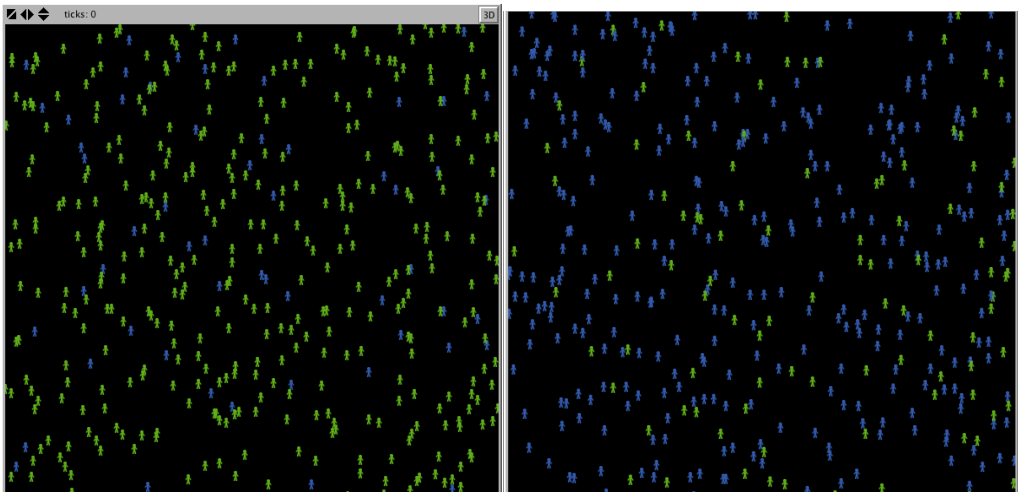


Figure 6.5 Scheme 2 Simulation Illustration

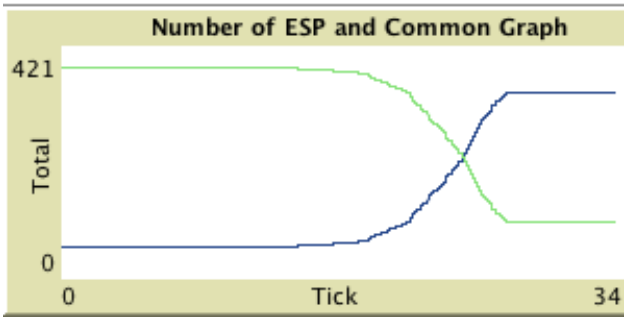


Figure 6.6 Scheme 2 ESP Growth Graph

6.4.2 ANOVA

This chapter shows the analysis of variance (ANOVA) result for each scenarios that were tested. The analysis of variance test can show which factor has the significant effect to the use of eco-sanitary products. Therefore, the hypothesis and the ANOVA result is shown in the table below.

Ho: There is no association between the two variables

Ho: Y is not correlated with factor Xn.

Ha: There is association between the two variables

Ha: Y is correlated with factor Xn

With significant level = 5% or 0.05

Where:

$F_{count} < F_{table}$ = Accept **Ho**

(There is no association between Xn and Y)

$F_{count} < F_{table}$ = Reject **Ho**

(There is association between Xn and Y)

Table 6.10 ANOVA Result for Scheme 2

Analysis of Variance for Y, using Adjusted SS for Tests						
Source	**DF**	**Seq SS**	**Adj SS**	**Adj MS**	**F**	**P**
X5	3	204.750	204.750	68.250	30.330	0.133
X3	3	80.250	80.250	26.750	11.890	0.209
X6	3	42.250	42.250	14.083	6.700	0.368
X1	1	1.000	1.000	1.000	0.440	0.626
X2	1	49.000	49.000	49.000	21.780	0.134
X7	1	9.000	9.000	9.000	4.000	0.295
X8	1	49.000	49.000	49.000	21.780	0.134
X4	1	210.000	210.000	210.250	93.440	0.066
Error	1	2.250	2.250	2.250		
Total	15	647.750				

After we obtain the F count of each scenario. We need to determine the F table as the justification whether to accept or reject Ho. Therefore, the F Table value is shown in the table below.

Table 6.11 F Table Results for Scheme 2

DF	**F Table**
3	7.814727903
1	3.841458821

From the Table above we highlight the F coefficient value as the main justification for comparing the scenarios available. It shows that almost all scenario affects the use of eco-sanitary products. The scenario that does not have association with Y is the neighboring factor and increase of water tariff scenario. All other scenario besides neighboring and information is associated with Y because the F count value is higher than the calculated F table for each respective degree of freedom. Therefore, we can interpret that almost all of the scenarios significantly

affects the use of eco-sanitary products except for neighboring factor and increase of water tariff scenario.

6.4.3 S/N Ratio

Taguchi introduced the S / N ratio or Signal to Noise Ratio approach to examine the effect of noise factors on the variations that arise. The type of S / N ratio depends on the desired characteristics. The S / N Ratio characteristics that are used in thi research is Smaller-the-Better (STB) whereas with decreasingly of the output means that the output is good. The S / N Ratio value for smaller-to-better characteristics is explained below.

$$SN\ STB = -10 \log \left[\frac{1}{n} \sum_{i=1}^{n} y_i^2 \right]$$

where n is the number of experiments that are done.

Therefore, the S/N Ration for smaller the better characteristic result is shown in the graph below.

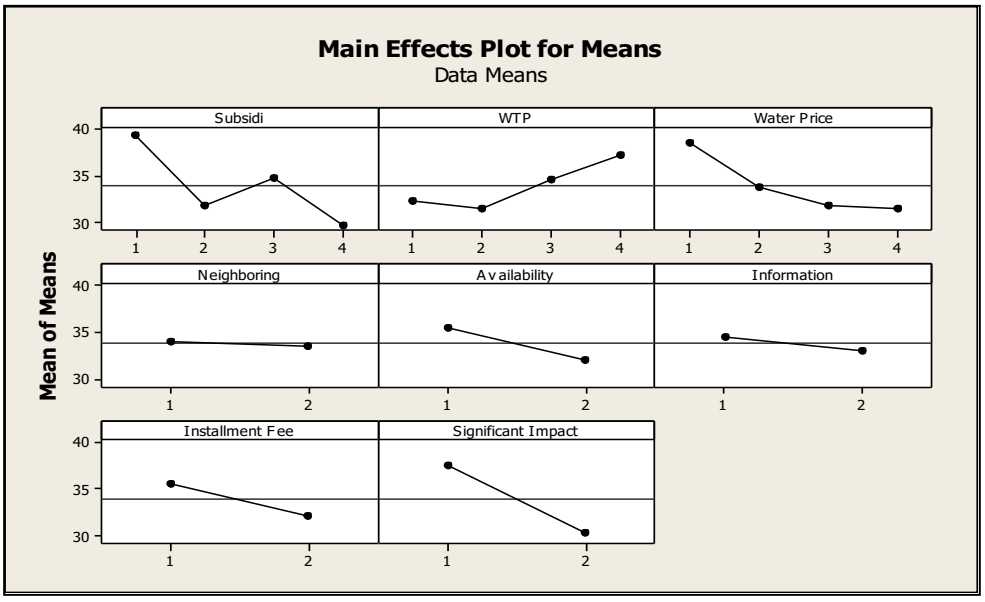


Figure 6.7 Main Effect for Means Scheme 2

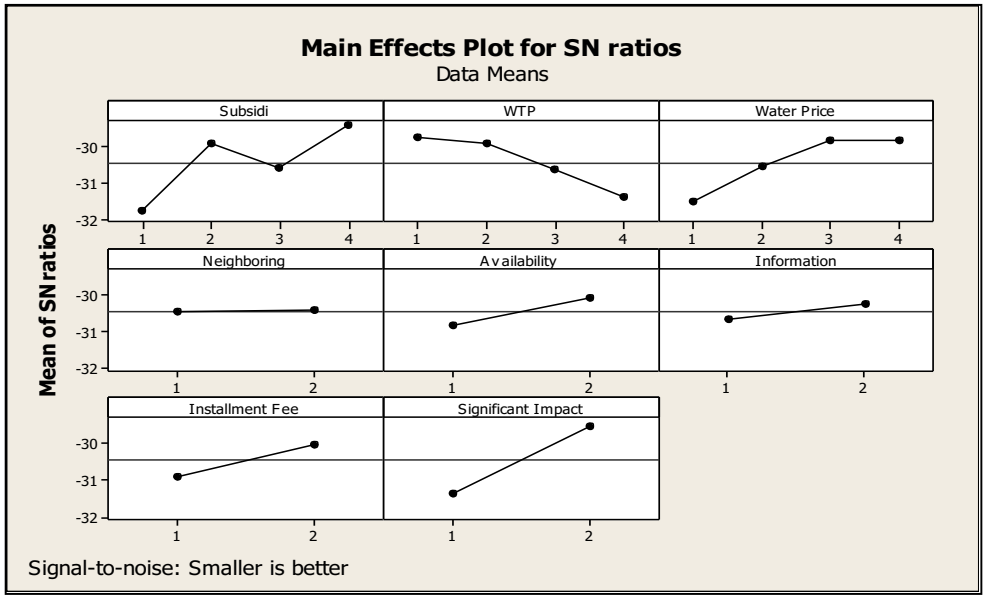


Figure 6.8 Main Effect for S/N Ratio Scheme 2

The two graphs above represent each factor that were tested with its level within the factor. The two graphs show the same interpretation. The graph shows which level in each factor with the highest effect on the output of the experiment. If we look at the Figure 6.4, we can see that the main effect is the level that has the highest value among other level. In fact, the subsidy scenario has the highest effect on the fourth level and the lowest effect on the first level. The willingness to pay scenario has the highest effect on the first level and steadily decrease as the level increases. The highest effect on the water tariff is in the fourth level but has almost the same value with the third level and the first level as the lowest effect on the use of eco-sanitary products. The neighboring factor has 2 levels and not significantly different. Hence, the second level shows slightly higher effect on the output compared to the first level. The availability shows that the second level has the higher effect on the use of eco-sanitary products compared to the first level. The information scenario shows that the second level has the higher effect on the output even though the difference is considered very small. Installment fee and significant impact on energy and water use shows a big difference on the value of the first level and the second level. Therefore, the second level has the higher effect on the use of eco-sanitary products for those two scenarios.

Table 6.12 Scheme 2 S/N Ratio Overall Result

Code	Factor	Level	Code
4 Level			
X5	Subsidy	1 - 10%	1
		11 - 20%	2
		20 - 30%	3
		> 30%	4
X3	Affordable Price (WTP)	5%	1
		10%	2
		15%	3
		>20%	4
X6	Water Tariff Increase	1 - 5%	1
		6 - 10%	2
		11 - 20%	3
		> 20%	4
2 Level			
X1	Number of Neighboring	Not affected by neighbors	1
		Affected by neighbors	2
X2	Availability of Product	Hard to obtain	1
		Easy to obtain	2
X7	Information	Hard to obtain	1
		Easy to Obtain	2
X8	Installation Fees	Paid Installation Fee	1
		Free Installation Fee	2
X4	Significant Impact on Energy and Water	No, it has no significant impact	1
		Yes, it has significant impact	2

6.5 Scenario Selection

This chapter explains about the recapitulation of the most suitable scenario based on the design of experiment result. The best scenario is based on the type of scheme that are discussed. The most optimum scenario to influence the use of eco-sanitary products is explained below.

Table 6.13 Scheme 1 Optimum Scenario

Scheme 1		
No	Factor	Value
1	Number of Neighboring	Affected by Neighbors
2	Availability of Product	Easy to get
3	Affordable Price	5%
4	Significant Impact on Water and Energy	Yes
5	Subsidy	30%
6	Information	Easy to obtain
7	Installation Fees	Free installation fees

If those levels of factors were inputted to the simulation model, the ticks value is 25 ticks. Hence, the lowest ticks value amongst all 16 experiments based on the result table above is experiment number 9 which has value of 30 ticks in average. The levels and factors result for experiment number 9 is as explained below.

Table 6.14 Scheme 1 for Experiment 9 Values

Experiment Number 9		
No	Factor	Value
1	Number of Neighboring	Affected by Neighbors
2	Availability of Product	Easy to get
3	Affordable Price	5%
4	Significant Impact on Water and Energy	Yes
5	Subsidy	20%
6	Information	Easy to obtain
7	Installation Fees	Free installation fees

Hence, there are 5 difference in terms of ticks for experiment number 9 and the most optimum solution. While the optimum solution or scenario is hard to be implemented, one example is to reduce the subsidy not to the preferred optimum solution to be around 20%. This occurs since in the existing condition, it is hard to give high value of subsidy because the process of generating the subsidy value of eco-sanitary product is complex. Therefore, if we change the subsidy level into one level below the optimum which is 20%, the adoption of eco-sanitary products will

take 15% longer than the fastest adoption rate using the most optimum combinations of level and factor available.

Table 6.15 Scheme 2 Optimum Scenario

Scheme 2		
No	Factor	Value
1	Availability of Product	Easy to get
2	Affordable Price	5%
3	Significant Impact on Water and Energy	Yes
4	Subsidy	30%
5	Information	Easy to obtain
6	Installation Fees	Free installation fees

If those levels of factors were inputted to the simulation model, the ticks value is 18 ticks. Hence, the lowest ticks value amongst all 16 experiments based on the result table above is experiment number 9 which has value of 23 ticks in average. The levels and factors result for experiment number 9 is as explained below.

Table 6.16 Scheme 2 for Experiment 9 Value

Experiment Number 9		
No	Factor	Value
1	Number of Neighboring	Affected by Neighbors
2	Availability of Product	Easy to get
3	Affordable Price	5%
4	Significant Impact on Water and Energy	Yes
5	Subsidy	20%
6	Information	Easy to obtain
7	Installation Fees	Free installation fees

Hence, there are 5 difference in terms of ticks for experiment number 9 and the most optimum solution. While the optimum solution or scenario is hard to be implemented, one example is to reduce the subsidy not to the preferred optimum solution to be around 20%. This occurs since in the existing condition, it is hard to give high value of subsidy because the process of generating the subsidy value of eco-sanitary product is complex. Therefore, if we change the subsidy level into

one level below the optimum which is 20%, the adoption of eco-sanitary products will take 21% longer than the fastest adoption rate using the most optimum combinations of level and factor available.

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CHAPTER 7
CONCLUSION AND SUGGESTION

This chapter explains regarding the conclusion based on the research purposes that were stated and suggestions for further research in this area of research.

7.1 Conclusion

The set of conclusions to answer the research purposes generated in the previous chapter are explained below.

1. The Surabaya people shows that their level of awareness regarding the water crisis considered high which is 64% of Surabaya people already aware in regard to the water crisis. Hence not all people that aware of water crisis actually act in terms of conserving the water using eco-sanitary products. It is shown that the number of Surabaya people that have the knowledge regarding eco-sanitary products is only 15% of the total Surabaya people.
2. 23% of the total Surabaya household does not willing to change its sanitary appliances to a more eco-sanitary appliances product. On the other hand, Furthermore, based on binary logistic regression test, there are 2 household factors that affects the use of eco-sanitary products which is household's income level and awareness in regard to water crisis.
3. There are 8 scenarios that were proposed in order to alter the decision making of the Surabaya household to be more willing to use eco-sanitary products. The first scenario is the number of neighboring household that use eco-sanitary products. The second scenario is the eco-Sanitary products availability in stores. The third scenario is affordable eco-sanitary products prices which correlated with the willingness to pay (WTP) of the household. The fourth scenario is the installation of eco-sanitary products significantly reduces water and energy usage. The fifth scenario is the purchase of eco-sanitary products is given subsidiaries from the government. The sixth scenario is he increase of water tariff. The seventh scenario is whether the

information regarding eco-sanitary product is incessant. The eighth scenario is the installment fees while installing the eco-sanitary products.

4. The scenarios are evaluated using DOE Taguchi after it is run in the agent based modeling simulation using Netlogo. The DOE is done using 2 different schemes, the first scheme is to simulate until all household use eco-sanitary products, the second scheme is to simulate until 76% of the household use eco-sanitary products. The result for scheme 1 is to affect the neighbors, high availability of product, only 5% increase of product price, have significant impact, 30% subsidy is given, information is easy to obtain, and free installation fees. The only difference with the second scheme is to neglect the neighboring factor.

7.2 Suggestion

The suggestions for researcher for future work in the field of this research is explained below.

1. To increase the number of agents identified in terms of consumers of clean water such as public facility, industries, companies, business places, etc.
2. To develop further and improved scenario in altering the decision making of the agents in order to make them more willing to use eco-sanitary products.
3. Map the geographical condition of Surabaya to embed more specific geographical or environmental influence towards the agent's interaction to one another.
4. Make costs as the basis justification of the optimum scenario.

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APPENDIX 1

(Questionnaire Result)

No Kuesioner	Lokasi Survey [Kecamatan - Kelurahan - RW - RT]	Jenis Kelamin	Berapakah usia anda?	Apakah Agama Anda?	Apakah pendidikan terakhir Anda?	Apakah pekerjaan anda?	Berapakah pendapatan keluarga Anda per bulan?	Berapakah pengeluaran keluarga Anda per bulan?	Apakah Anda memiliki anak usia balita?	Jika Ya, Berapakah jumlah anak anda yang berusia balita? Jika tidak, tulis 0	Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?	Apakah jenis rumah yang keluarga Anda tinggali?	Apakah lingkungan rumah keluarga Anda?
1	Rungkut - Kali Rungkut - 5 - 3	Perempuan	47	Islam	SMA	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
2	Mulyorejo-Mulyorejo-05-05	Perempuan	63	Islam	SD	Wiraswasta	≤ Rp. 1.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Kos keluarga	Perumahan
3	Sukolilo-Menur Pumpungan-01-04	Perempuan	39	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Perumahan
4	Simokerto - Simokerto - 4 - 1	Perempuan	30	Islam	Sarjana	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	3	Milik pribadi	Kampung
5	Simokerto - Simokerto - 4 - 4	Perempuan	42	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
6	Sukolilo-Keputih-01-02	Perempuan	38	Islam	SD	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
7	Sawahan-Putat Jaya-X-5	Laki-laki	74	Islam	SD	Wiraswasta	≤ Rp. 1.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	7	Milik pribadi	Kampung
8	Mulyorejo-Kejawan Putih Tambak-02-01	Perempuan	38	Islam	SMP	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
9	Mulyorejo-Kalijudan-03-06	Perempuan	21	Islam	SMA	Mahasiswa	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	7	Kontrak	Kampung
10	Sawahan-Putat Jaya-VI-5	Perempuan	29	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Ya	1	3	Milik pribadi	Kampung
11	Sawahan-Putat Jaya-VI-5	Perempuan	51	Islam	SMP	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	6	Milik pribadi	Kampung
12	Sawahan-Putat Jaya-VI-5	Perempuan	61	Islam	SD	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
13	RUNGKUT – RUNGKUT KIDUL - 5 - 2	Laki-laki	43	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
14	RUNGKUT – RUNGKUT KIDUL – 2 – 5	Perempuan	40	Islam	SMA	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
15	Sawahan-Pakis-IX-1	Perempuan	57	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	6	Milik pribadi	Kampung
16	RUNGKUT – WONOREJO – 3 – 3	Perempuan	45	Islam	SMP	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
17	Sawahan-Pakis-IX-7	Perempuan	47	Kristen	SMA	Ibu Rumah Tangga	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	8	Milik pribadi	Kampung
18	RUNGKUT – MEDOKAN AYU – 3 – 2	Perempuan	25	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
19	Sawahan-Pakis-VIII-4	Perempuan	60	Islam	SMP	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	7	Milik pribadi	Kampung
20	Bubutan-Bubutan-IV-2	Perempuan	51	Islam	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	10	Milik pribadi	Kampung
21	GENTENG – PENELEH – 2 – 11	Perempuan	18	Islam	SMA	Mahasiswa	Rp. 10.000.000 - Rp. 15.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
22	RUNGKUT - MEDOKAN AYU - 3 - 3	Perempuan	45	Islam	Sarjana	Karyawan Swasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Ya	1	4	Milik pribadi	Kampung
23	RUNGKUT - MEDOKAN AYU - 3 - 3	Perempuan	41	Islam	Sarjana	Wiraswasta	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Ya	1	20	Milik pribadi	Kampung
24	RUNGKUT - KALI RUNGKUT - 2 - 8	Laki-laki	19	Islam	SMA	Mahasiswa	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Tidak	0	4	Milik pribadi	Perumahan

No Kuesioner	Lokasi Survey [Kecamatan - Kelurahan - RW - RT]	Jenis Kelamin	Berapakah usia anda?	Apakah Agama Anda?	Apakah pendidikan terakhir Anda?	Apakah pekerjaan anda?	Berapakah pendapatan keluarga Anda per bulan?	Berapakah pengeluaran keluarga Anda per bulan?	Apakah Anda memiliki anak usia balita?	Jika Ya, Berapakah jumlah anak anda yang berusia balita? Jika tidak, tulis 0	Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?	Apakah jenis rumah yang keluarga Anda tinggali?	Apakah lingkungan rumah keluarga Anda?
25	RUNGKUT - PENJARINGAN SARI - 6 – 1	Perempuan	41	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Perumahan
26	GENTENG - KETABANG - 1 – 4	Perempuan	41	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	8	Milik pribadi	Kampung
27	GENTENG - KETABANG - 1 – 4	Perempuan	65	Islam	SD	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Kontrak	Kampung
28	GENTENG - KAPASARI - 5 – 4	Perempuan	45	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	6	Milik pribadi	Perumahan
29	GENTENG - KAPASARI - 5 – 6	Perempuan	50	Islam	SMA	Ibu Rumah Tangga	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
30	GENTENG - GENTENG - 8 – 2	Perempuan	65	Islam	SD	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	2	Kontrak	Kampung
31	GENTENG - GENTENG - 8 – 2	Perempuan	25	Islam	SMA	Ibu Rumah Tangga	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Ya	2	4	Milik pribadi	Kampung
32	GENTENG - EMBONG KALI ASIN - 9 – 2	Perempuan	25	Islam	SD	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
33	GENTENG - EMBONG KALI ASIN - 9 – 2	Perempuan	40	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	9	Milik pribadi	Kampung
34	RUNGKUT - WONOREJO - 8 – 7	Perempuan	39	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Perumahan
35	RUNGKUT - PENJARINGAN SARI - 4 – 6	Laki-laki	48	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	7	Milik pribadi	Kampung
36	KENJERAN - TANAH KALI KEDINDING - 2 – 8	Laki-laki	62	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
37	KENJERAN - TANAH KALI KEDINDING - 8 – 4	Perempuan	35	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	2	6	Kos keluarga	Kampung
38	KENJERAN - TANAH KALI KEDINDING - 8 – 4	Perempuan	19	Islam	SMA	Mahasiswa	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
39	KENJERAN - TANAH KALI KEDINDING - 3 – 5	Perempuan	37	Islam	SD	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	3	Kos keluarga	Kampung
40	KENJERAN - TANAH KALI KEDINDING - 8 – 3	Perempuan	36	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	2	6	Milik pribadi	Kampung
41	KENJERAN - SIDOTOPO WETAN - 23 – 20	Laki-laki	36	Islam	SD	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	7	Milik pribadi	Kampung
42	KENJERAN - SIDOTOPO WETAN - 6 – 8	Laki-laki	37	Islam	SMP	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
43	KENJERAN - SIDOTOPO WETAN - 18 –14	Perempuan	34	Islam	SMA	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Kontrak	Kampung
44	KENJERAN - SIDOTOPO WETAN - 3 – 20	Perempuan	30	Islam	SMP	Mahasiswa	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	6	Milik pribadi	Kampung
45	Kenjeran - Sidotopo Wetan - 3 - 20	Perempuan	32	Islam	SD	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	3	Milik pribadi	Kampung
46	Gunung Anyar - Gunung Anyar - 5 - 2	Laki-laki	41 Tahun	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 15.000.000 - Rp. 25.000.000	≥ Rp 5.000.000	Ya	2	4	Milik pribadi	Perumahan
47	SEMAMPIR - SIDOTOPO - 10 – 15	Perempuan	42	Islam	SMP	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
48	KENJERAN - BULAK BANTENG - 8 – 1	Perempuan	43	Islam	SMA	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung

No Kuesioner	Lokasi Survey [Kecamatan - Kelurahan - RW - RT]	Jenis Kelamin	Berapakah usia anda?	Apakah Agama Anda?	Apakah pendidikan terakhir Anda?	Apakah pekerjaan anda?	Berapakah pendapatan keluarga Anda per bulan?	Berapakah pengeluaran keluarga Anda per bulan?	Apakah Anda memiliki anak usia balita?	Jika Ya, Berapakah jumlah anak anda yang berusia balita? Jika tidak, tulis 0	Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?	Apakah jenis rumah yang keluarga Anda tinggali?	Apakah lingkungan rumah keluarga Anda?
49	KENJERAN – BULAK BANTENG - 8 – 1	Perempuan	45	Islam	SD	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
50	KENJERAN – BULAK BANTENG - 8 – 1	Perempuan	37	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
51	KENJERAN – BULAK BANTENG - 8 – 1	Perempuan	45	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
52	KENJERAN – BULAK BANTENG - 8 – 1	Perempuan	49	Islam	SMP	Ibu Rumah Tangga	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
53	Gunung Anyar - Gunung Anyar Tambak - 1 - 1	Laki-laki	50 Tahun	Islam	SD	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	4	Milik pribadi	Kampung
54	Gunung Anyar - Rungkut Menanggal - IV - 14	Laki-laki	60	Islam	SD	Pensiunan	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	2	Milik pribadi	Perumahan
55	KENJERAN – BULAK BANTENG - 8 – 1	Perempuan	53	Islam	SMP	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung
56	KENJERAN – TAMBAK WEDI – 8 – 6	Perempuan	24	Islam	SMP	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	2	10	Milik pribadi	Kampung
57	KENJERAN – TAMBAK WEDI – 4 – 6	Perempuan	48	Islam	SD	Ibu Rumah Tangga	Rp 5.000.000 - Rp. 10.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	7	Milik pribadi	Kampung
58	KENJERAN – TAMBAK WEDI – 4 – 9	Perempuan	24	Islam	SD	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
59	Simokerto - Simokerto - 4 - 2	Laki-laki	67	Islam	SMP	PNS/Kary Swasta/ABRI/Polisi	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
60	KENJERAN – TAMBAK WEDI – 1 – 5	Perempuan	35	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Kampung
61	Simokerto - Sidodadi - 9 - 4	Perempuan	57	Katholik	Sarjana	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
62	Simokerto - Sidodadi - 4 - 2	Perempuan	60	Islam	SD	Ibu rumah tangga	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	5	Milik pribadi	Kampung
63	Simokerto - Sidodadi - 4 - 1	Perempuan	30	Islam	SMA	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	4	Milik pribadi	Kampung
64	Simokerto - Simolawang - 10 - 1	Perempuan	43	Kristen	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
65	KENJERAN – TAMBAK WEDI – 1 – 18	Perempuan	30	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Kampung
66	Simokerto - Tambakrejo - 8 - 1	Perempuan	50	Kristen	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
67	Simokerto - Tambakrejo - 5 - 1	Perempuan	61	Islam	SMP	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung
68	SEMAMPIR – WONOKUSOMO – 8 – 4	Laki-laki	46	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	5	Milik pribadi	Kampung
69	Simokerto - Kapasan - 2 - 4	Laki-laki	28	Islam	SMA	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	5	Milik pribadi	Kampung
70	Simokerto - Kapasan - 2 - 3	Laki-laki	47	Budha	SMA	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	5	Milik pribadi	Kampung
71	SEMAMPIR – WONOKUSOMO – 9 – 1	Perempuan	40	Islam	Sarjana	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
72	Simokerto - Kapasan - 3 - 4	Perempuan	40	Islam	SMP	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	7	Milik pribadi	Kampung
73	SEMAMPIR – WONOKUSOMO – 9 – 1	Perempuan	33	Islam	Sarjana	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	2	6	Milik pribadi	Kampung
74	SEMAMPIR – WONOKUSOMO – 11– 9	Perempuan	41	Islam	SMP	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
75	SEMAMPIR – WONOKUSOMO – 9 – 2	Perempuan	32	Islam	SD	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
76	SEMAMPIR – SIDOTOPO – 11 – 3	Perempuan	52	Islam	SMP	Ibu Rumah Tangga	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	8	Milik pribadi	Kampung
77	SEMAMPIR – SIDOTOPO – 11 – 3	Perempuan	42	Islam	SD	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Kampung

No Kuesioner	Lokasi Survey [Kecamatan - Kelurahan - RW - RT]	Jenis Kelamin	Berapakah usia anda?	Apakah Agama Anda?	Apakah pendidikan terakhir Anda?	Apakah pekerjaan anda?	Berapakah pendapatan keluarga Anda per bulan?	Berapakah pengeluaran keluarga Anda per bulan?	Apakah Anda memiliki anak usia balita?	Jika Ya, Berapakah jumlah anak anda yang berusia balita? Jika tidak, tulis 0	Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?	Apakah jenis rumah yang keluarga Anda tinggali?	Apakah lingkungan rumah keluarga Anda?
78	Gunung Anyar - Gunung Anyar Tambak - 1 - 1	Laki-laki	52	Islam	SD	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	9	Milik pribadi	Kampung
79	SEMAMPIR – SIDOTOPO – 11 – 1	Perempuan	60	Islam	SD	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
80	SEMAMPIR – SIDOTOPO – 11 – 1	Perempuan	75	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	1	Kontrak	Kampung
81	SEMAMPIR – AMPEL – 1 – 5	Laki-laki	34	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Kos keluarga	Kampung
82	Sukomanunggal-Simomulyo Baru-IX-2	Perempuan	52	Islam	SD	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung
83	Gunung Anyar - Rungkut Tengah - 5 - 3	Perempuan	48	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
84	Sukomanunggal-Simomulyo Baru-IX-2	Laki-laki	33	Islam	Diploma	PNS/Kary Swasta/ABRI/Polisi	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung
85	Pabean Cantian - Perak Utara - 4 - 4	Laki-laki	62	Islam	Sarjana	Pensiunan Pemprov Jatim	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Ya	1	4	Milik pribadi	Kampung
86	SEMAMPIR – AMPEL – 3 – 3	Perempuan	53	Islam	SD	Wiraswasta	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Tidak	0	5	Milik pribadi	Kampung
87	Sukomanunggal-Simomulyo-II-1	Perempuan	30	Islam	SD	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	2	12	Milik pribadi	Kampung
88	Gunung Anyar - Rungkut Menanggal - 1 - 2	Laki-laki	45	Islam	Diploma	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Perumahan
89	Gunung Anyar - Gunung Anyar - 2 - 6	Perempuan	49	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
90	Sukomanunggal-Simomulyo-II-1	Perempuan	68	Islam	SD	Ibu Rumah Tangga	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	10	Milik pribadi	Kampung
91	Sukomanunggal-Simomulyo-II-1	Perempuan	70	Islam	SMA	Pensiun Guru	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
92	sukomanunggal - putat gede - I - 2	Perempuan	42	Islam	SD	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	6	Milik pribadi	Kampung
93	Sukomanunggal-Putat Gede-I-3	Perempuan	43	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	2	4	Milik pribadi	Kampung
94	Sukomanunggal-Putat Gede-VI-3	Perempuan	43	Islam	SMP	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
95	Sukomanunggal-SonoKwijenan-I-5	Laki-laki	48	Islam	SD	PNS/Kary Swasta/ABRI/Polisi	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	7	Milik pribadi	Kampung
96	SEMAMPIR – AMPEL – 3 – 3	Perempuan	37	Islam	SMA	Ibu Rumah Tangga	Rp. 10.000.000 - Rp. 15.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	6	Milik pribadi	Kampung
97	SEMAMPIR – PEGIRIAN – 14 – 11	Laki-laki	39	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
98	SEMAMPIR – PEGIRIAN – 11 – 3	Laki-laki	57	Islam	SMP	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
99	SEMAMPIR – PEGIRIAN – 11 – 3	Perempuan	35	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Kampung
100	SEMAMPIR – PEGIRIAN – 11 – 3	Perempuan	35	Islam	SD	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Kampung
101	SEMAMPIR – PEGIRIAN – 11 – 3	Perempuan	50	Islam	SD	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
102	SEMAMPIR – UJUNG – 1 – 1	Perempuan	45	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	6	Rumah dinas	Rumah dinas
103	SEMAMPIR – UJUNG – 7 – 9	Perempuan	33	Islam	SMA	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	7	Rumah dinas	Rumah dinas
104	SEMAMPIR – UJUNG – 7 – 9	Perempuan	46	Islam	SMA	Ibu Rumah Tangga	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	3	Rumah dinas	Rumah dinas
105	SEMAMPIR – UJUNG – 7 – 9	Perempuan	25	Islam	SMA	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	3	Rumah dinas	Rumah dinas
106	SEMAMPIR – UJUNG – 7 – 9	Perempuan	44	Islam	Sarjana	Ibu Rumah Tangga	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	3	Rumah dinas	Rumah dinas
107	Mulyorejo-Kalisari-01-03	Perempuan	38	Kristen	SMA	Ibu rumah tangga	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Tidak	0	3	Milik pribadi	Perumahan

No Kuesioner	Lokasi Survey [Kecamatan - Kelurahan - RW - RT]	Jenis Kelamin	Berapakah usia anda?	Apakah Agama Anda?	Apakah pendidikan terakhir Anda?	Apakah pekerjaan anda?	Berapakah pendapatan keluarga Anda per bulan?	Berapakah pengeluaran keluarga Anda per bulan?	Apakah Anda memiliki anak usia balita?	Jika Ya, Berapakah jumlah anak anda yang berusia balita? Jika tidak, tulis 0	Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?	Apakah jenis rumah yang keluarga Anda tinggali?	Apakah lingkungan rumah keluarga Anda?
108	Mulyorejo-Kalisari-06-01	Perempuan	24	Islam	Sarjana	Mahasiswa	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	5	Milik pribadi	Kampung
109	Sukolilo-Keputih-07-01	Perempuan	22	Islam	SMA	Mahasiswa	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	4	Rumah dinas	Rumah dinas
110	Sukolilo-Gebang Putih-02-02	Perempuan	52	Islam	Sarjana	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
111	Sukomanunggal-SonoKwijenan-I-5	Laki-laki	50	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
112	Wonokromo-Ngagel Rejo-V-9	Laki-laki	70	Islam	SD	Pensiunan	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung
113	Wonokromo-Ngagel Rejo-IV-14	Perempuan	42	Islam	SMP	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	15	Milik pribadi	Kampung
114	Sukomanunggal-Sukomanunggal-V-3	Perempuan	34	Islam	SMA	Wiraswasta	Rp. 10.000.000 - Rp. 15.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	3	Milik pribadi	Kampung
115	Sukomanunggal-Sukomanunggal-VII-3	Laki-laki	39	Islam	Sarjana	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
116	Sukomanunggal-Tanjungsari-VI-3	Perempuan	65	Islam	Diploma	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
117	Sukomanunggal-Tanjungsari-VI-3	Perempuan	69	Islam	SMA	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	6	Milik pribadi	Kampung
118	Pabean Cantian - Perak Utara - 03 - 04	Perempuan	43	Islam	SMA	Ibu Rumah Tangga	Rp 5.000.000 - Rp. 10.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Kontrak	Kampung
119	Bubutan-Jepara-I-2	Perempuan	30	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	5	Milik pribadi	Kampung
120	Sawahan-Kupang Prajan-V-4	Perempuan	35	Islam	SMP	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	6	Milik pribadi	Kampung
121	Sukolilo-Gebang Putih-03-03	Perempuan	41	Islam	SMP	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
122	Sukolilo-Gebang Putih-03-01	Perempuan	61	Islam	SMA	Ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
123	Sukolilo-Klampis Ngasem-09-02	Perempuan	46	Islam	Diploma	Ibu rumah tangga	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	2	Milik pribadi	Perumahan
124	Mulyorejo-Kejawan Putih Tambak-03-03	Perempuan	47	Islam	SMA	Ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	6	Milik pribadi	Perumahan
125	Sawahan-Banyu Urip-V-3	Perempuan	36	Islam	Diploma	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	6	Milik pribadi	Kampung
126	Mulyorejo-Dukuh Sutorejo-19-05	Perempuan	64	Budha	SMP	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	4	Milik pribadi	Perumahan
127	Sawahan-Banyu Urip-V-3	Laki-laki	68	Islam	SMA	Pensiunan PNS	Rp 5.000.000 - Rp. 10.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
128	Mulyorejo-Dukuh Sutorejo-01-08	Perempuan	60	Kristen	SMA	Ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Perumahan
129	Sawahan-Banyu Urip-V-3	Laki-laki	67	Islam	SD	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
130	Sawahan-Banyu urip-V-3	Perempuan	61	Islam	SD	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	6	Milik pribadi	Kampung
131	Sawahan-Petemon-IX-10	Perempuan	47	Islam	SMP	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
132	Sukolilo-Semolowaru-07-04	Perempuan	53	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Perumahan
133	Bubutan-Tembok Dukuh-V-5	Perempuan	48	Islam	SD	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	5	Milik pribadi	Kampung
134	Tandes-Tandes-02-04	Perempuan	64	Katholik	SMA	Pensiunan	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Tidak	0	2	Milik pribadi	Perumahan
135	Wonokromo-Ngagel Rejo-VI-10	Laki-laki	61	Islam	Sarjana	Pensiunan	Rp. 10.000.000 - Rp. 15.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
136	Sukolilo-Semolowaru-07/05	Perempuan	37	Islam	Sarjana	Ibu rumah tangga	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Tidak	0	7	Milik pribadi	Perumahan
137	Tandes-Manukan Kulon-09-07	Perempuan	54	Kristen	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung

No Kuesioner	Lokasi Survey [Kecamatan - Kelurahan - RW - RT]	Jenis Kelamin	Berapakah usia anda?	Apakah Agama Anda?	Apakah pendidikan terakhir Anda?	Apakah pekerjaan anda?	Berapakah pendapatan keluarga Anda per bulan?	Berapakah pengeluaran keluarga Anda per bulan?	Apakah Anda memiliki anak usia balita?	Jika Ya, Berapakah jumlah anak anda yang berusia balita? Jika tidak, tulis 0	Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?	Apakah jenis rumah yang keluarga Anda tinggali?	Apakah lingkungan rumah keluarga Anda?
138	Tandes-Manukan Kulon-09-07	Perempuan	20	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	5	Milik pribadi	Kampung
139	Tandes-Manukan Wetan-5-1	Perempuan	70	Islam	SD	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
140	Bubutan - Gundih - 6 - 3	Perempuan	60	Islam	SMP	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
141	Karang Pilang - Karang Pilang - 04 - 04	Laki-laki	40	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Rumah dinas	Rumah dinas
142	Karang Pilang - Karang Pilang - 04 - 05	Perempuan	41	Islam	SMA	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Rumah dinas	Rumah dinas
143	Karang Pilang - Karang Pilang - 04 - 04	Perempuan	47	Islam	Sarjana	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Rumah dinas	Rumah dinas
144	Bubutan-Gundih-III-6	Perempuan	65	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung
145	Karang Pilang - Kebraon - 12 - 05	Perempuan	22	Kristen	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	5	Milik pribadi	Perumahan
146	Karang Pilang - Kebraon - 02 - 07	Perempuan	53	Islam	Sarjana	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	5	Milik pribadi	Kampung
147	Bubutan-Tembok Dukuh-V-5	Perempuan	47	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
148	Gubeng - Gubeng - 17 - 02	Laki-laki	43	Kristen	Sarjana	Wiraswasta	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Tidak	0	5	Milik pribadi	Kampung
149	Gubeng - Gubeng - 19 - 02	Laki-laki	74	Islam	SMA	Pensiunan	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung
150	Gubeng - Gubeng - 17 - 02	Laki-laki	59	Islam	Sarjana	Purnawirawan	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Kampung
151	Gubeng - Airlangga - 06 - 03	Perempuan	35	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	5	Milik pribadi	Kampung
152	Gubeng - Gubeng - 09 - 01	Perempuan	46	Islam	Diploma	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
153	Gubeng - Airlangga - 06 - 3	Laki-laki	64	Kristen	SMA	Pensiunan	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
154	Gubeng - Airlangga	Perempuan	31	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	8	Milik pribadi	Kampung
155	Gubeng - Kertajaya - 02 - 10	Laki-laki	24	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	6	Kontrak	Kampung
156	Gubeng - Kertajaya - 02 - 06	Laki-laki	53	Islam	Sarjana	Karyawan Swasta	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	3	Milik pribadi	Kampung
157	Gubeng - Kertajaya - 03 - 06	Perempuan	58	Islam	SMA	Ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	4	Milik pribadi	Kampung
158	Tegalsari - Dr.Soetomo - 2 -1	Perempuan	58	Budha	SMA	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
159	Sawahan-Sawahan-I-2	Perempuan	51	Islam	SMA	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
160	Bubutan-Tembok Dukuh-V-5	Laki-laki	30	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
161	Sambikerep-Bringin-3-2	Perempuan	60	Islam	SMP	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung
162	Karang Pilang - Kebraon - 02 - 06	Perempuan	47	Islam	SD	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
163	Tenggilis Mejoyo - Tenggilis Mejoyo - 4 - 4	Laki-laki	58	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Ya	1	6	Milik pribadi	Kampung
164	sambikerep-bringin-2-1	Perempuan	47	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
165	sambikerep-bringin-1-2	Laki-laki	55	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
166	sambikerep-sambikerep-2-4	Perempuan	40	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	5	Milik pribadi	Kampung
167	Tandes-Manukan Wetan-5-1	Laki-laki	42	Islam	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung

No Kuesioner	Lokasi Survey [Kecamatan - Kelurahan - RW - RT]	Jenis Kelamin	Berapakah usia anda?	Apakah Agama Anda?	Apakah pendidikan terakhir Anda?	Apakah pekerjaan anda?	Berapakah pendapatan keluarga Anda per bulan?	Berapakah pengeluaran keluarga Anda per bulan?	Apakah Anda memiliki anak usia balita?	Jika Ya, Berapakah jumlah anak anda yang berusia balita? Jika tidak, tulis 0	Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?	Apakah jenis rumah yang keluarga Anda tinggali?	Apakah lingkungan rumah keluarga Anda?
168	Gubeng - Airlangga - 04 - 05	Perempuan	50	Islam	SD	Ibu rumah tangga	> Rp. 25.000.000	≥ Rp 5.000.000	Ya	1	7	Milik pribadi	Kampung
169	Tandes-Karang poh-6-1	Perempuan	52	Katholik	SMA	Ibu Rumah Tanggah	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	6	Milik pribadi	Perumahan
170	Gubeng - Mojo	Perempuan	54	Islam	SMP	Ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
171	Rungkut - Kedung Baruk - 1 - 3	Perempuan	37	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Kampung
172	Gubeng - Mojo - 01 - 11	Perempuan	53	Kristen	Sarjana	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	≥ Rp 5.000.000	Tidak	0	4	Milik pribadi	Kampung
173	Sawahan-Petemon-16-3	Perempuan	41	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 10.000.000 - Rp. 15.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	6	Milik pribadi	Kampung
174	Rungkut - Kedung Baruk - 1 - 3	Perempuan	37	Islam	SD	Pembantu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Kos keluarga	Kampung
175	Sawahan-Petemon-I-1	Perempuan	35	Islam	Diploma	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	2	8	Milik pribadi	Kampung
176	Sawahan-Petemon-II-1	Laki-laki	64	Islam	SMA	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung
177	Wonocolo - Jagir - 9 - 1	Laki-laki	40	Islam	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	7	Milik pribadi	Kampung
178	Sawahan-Petemon-IX-10	Laki-laki	35	Kristen	Diploma	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Kampung
179	Sawahan-Petemon-IX-10	Perempuan	50	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
180	Bubutan - Alon Alon Contong - 01 - 02	Perempuan	45	Islam	SMA	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	7	Milik pribadi	Kampung
181	Sawahan-Sawahan-I-2	Laki-laki	63	Islam	SD	PNS/Kary Swasta/ABRI/Polisi	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
182	Bubutan - Alon Alon Contong - 01 - 013	Perempuan	19	Islam	SMA	Mahasiswa	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Tidak	0	5	Milik pribadi	Kampung
183	Tegalsari - Tegalsari - 6 - 10	Perempuan	38	Islam	SMP	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	6	Milik pribadi	Kampung
184	Tegal Sari - Dr. Soetomo - 1 - 6	Perempuan	58	Islam	SMP	Ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	2	Milik pribadi	Kampung
185	Bubutan - Gundih - 6 - 3	Laki-laki	40	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	7	Milik pribadi	Kampung
186	Bubutan - Alon Alon Contong - 01 - 13	Laki-laki	70	Budha	SMA	Pensiunan	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	4	Milik pribadi	Kampung
187	Bubutan - Bubutan - 5 - 1	Perempuan	40	Islam	SMP	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Kontrak	Kampung
188	Sawahan - Pakis - 5 -1	Laki-laki	76	Islam	SMA	pensiunan	Rp. 15.000.000 - Rp. 25.000.000	≥ Rp 5.000.000	Tidak	0	9	Milik pribadi	Kampung
189	Sawahan - Pakis - 5 - 5	Perempuan	58	Islam	SMA	Ibu rumah tangga	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Tidak	0	6	Milik pribadi	Kampung
190	Simokerto - Simolawang - 01 - 04	Perempuan	55	Islam	SD	Ibu Rumah Tangga	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	6	Kontrak	Kampung
191	Tegalsari - Dr. Sutomo - 1 -1	Laki-laki	53	Islam	SMA	Pensiunan	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
192	Semampir - Ampel - 02 - 01	Perempuan	44	Islam	SMA	Ibu Rumah Tangga	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Ya	2	6	Milik pribadi	Kampung
193	Simokerto - Simolawang - 02 - 02	Perempuan	53	Islam	SD	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	7	Milik pribadi	Kampung
194	Tegalsari - Tegalsari - 6 - 12	Perempuan	38	Islam	Diploma	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	4	Milik pribadi	Kampung
195	Semampir - Ampel - 06 - 01	Perempuan	40	Islam	SMA	Ibu rumah tangg	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	6	Milik pribadi	Kampung
196	Wonokromo-Ngagel Rejo-IV-14	Perempuan	68	Islam	SMP	Ibu Rumah Tangga	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	10	Milik pribadi	Kampung
197	Tegalsari- Tegalsari - 6 - 12	Laki-laki	39	Islam	SD	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	4	Kontrak	Kampung

No Kuesioner	Lokasi Survey [Kecamatan - Kelurahan - RW - RT]	Jenis Kelamin	Berapakah usia anda?	Apakah Agama Anda?	Apakah pendidikan terakhir Anda?	Apakah pekerjaan anda?	Berapakah pendapatan keluarga Anda per bulan?	Berapakah pengeluaran keluarga Anda per bulan?	Apakah Anda memiliki anak usia balita?	Jika Ya, Berapakah jumlah anak anda yang berusia balita? Jika tidak, tulis 0	Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?	Apakah jenis rumah yang keluarga Anda tinggali?	Apakah lingkungan rumah keluarga Anda?
198	Bulak - Bulak - 4 -7	Perempuan	33	Islam	SMA	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
199	Rumgkut - kedung baruk - 01 -03	Perempuan	44	Islam	SMP	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
200	Bulak - Kedungcowek - 1 -1	Perempuan	45	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	11	Milik pribadi	Kampung
201	Lakarsantri - Sumur Welut - 01 - 07	Perempuan	26	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung
202	Karang Pilang - Warugunung - 01 - 05	Perempuan	33	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	5	Milik pribadi	Kampung
203	Karang Pilang - Warugunung - 01 - 04	Laki-laki	54	Islam	SMP	Pensiun	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	4	Milik pribadi	Kampung
204	sambikerep-sambikerep-1-5	Laki-laki	56	Kristen	Sarjana	pensiunan	Rp 5.000.000 - Rp. 10.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
205	Karang Pilang - Kedurus - 08 - 02	Perempuan	46	Kristen	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
206	Tandes-Karang poh-4-3	Laki-laki	76	Islam	SMP	Pensiunan	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	2	5	Milik pribadi	Kampung
207	Karang Pilang - Kedurus - 06 - 02	Laki-laki	68	Islam	SMP	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Perumahan
208	Dukuh Pakis - Gunung Sari - 03 - 04	Perempuan	25	Islam	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	3	Kontrak	Kampung
209	Tandes-Balongsari-3-2	Laki-laki	45	Islam	SD	Rumah tangga	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
210	Tandes-Balongsari-2-2	Perempuan	36	Islam	SMA	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	7	Milik pribadi	Kampung
211	Tandes-Balongsari-1-2	Laki-laki	40	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	5	9	Kos keluarga	Kampung
212	Bulak - Sukolilo Baru - 3-2	Perempuan	50	Islam	SMA	ibu rumah tangga	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	5	Milik pribadi	Kampung
213	Tandes-Banjar Sugihan-4-4	Laki-laki	47	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
214	Dukuh Pakis - Gunung Sari - 03 - 04	Perempuan	45	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	≥ Rp 5.000.000	Tidak	0	7	Milik pribadi	Kampung
215	Tandes-Banjar sugihan-4-4	Laki-laki	63	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	3	Milik pribadi	Kampung
216	Dukuh Pakis - Dukuh Kupang - 08 - 04	Laki-laki	54	Islam	SD	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Perumahan
217	Bulak - Bulak - 4 -7	Perempuan	25	Islam	SMA	ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	2	5	Milik pribadi	Kampung
218	Benowo-Kandangan-4-1	Perempuan	28	Islam	SMP	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	4	Milik pribadi	Kampung
219	Benowo-Klakahrejo-2-8	Laki-laki	52	Islam	SD	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	1	Milik pribadi	Kampung
220	Benowo-Klakahrejo-4-3	Perempuan	50	Islam	SD	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	3	Kos keluarga	Kampung
221	Benowo-Sememi-8-1	Perempuan	44	Islam	SD	Ibu rumah tangga	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	10	Milik pribadi	Kampung
222	Bulak - Kedungcowek - 1 - 3	Perempuan	34	Islam	SMA	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Kampung
223	Benowo-Romokalisari-3-1	Perempuan	23	Islam	SMA	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	7	Milik pribadi	Kampung
224	Pabean Cantian - Perak Timur - 03 - 04	Perempuan	44	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
225	Bulak - Kenjeran - 1 -3	Perempuan	55	Islam	SMP	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	8	Milik pribadi	Kampung
226	Dukuh Pakis - Pradahkalikendal - 01 - 03	Perempuan	43	Islam	SMP	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	5	Milik pribadi	Kampung
227	Benowo-Romokalisari-1-1	Perempuan	56	Islam	SMP	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Ya	1	4	Milik pribadi	Kampung

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228	Pabean Cantian - Bongkaran - 02 - 02	Laki-laki	27	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	7	Milik pribadi	Kampung
229	Dukuh Pakis - Pradahkalikendal - 01 - 03	Laki-laki	50	Islam	SMP	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	≥ Rp 5.000.000	Tidak	0	3	Milik pribadi	Kampung
230	Benowo-tambakoso-3-3	Perempuan	65	Islam	SD	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	1	Milik pribadi	Kampung
231	Lakarsantri - Lidah Kulon - 08 - 02	Laki-laki	39	Kristen	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 10.000.000 - Rp. 15.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	3	Milik pribadi	Perumahan
232	Benowo-Tambakoso-3-3	Perempuan	43	Islam	SMP	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
233	Pabean Cantian - Bongkaran - 02 - 02	Perempuan	22	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Ya	1	3	Milik pribadi	Kampung
234	Wiyung-Wiyung-3-4	Perempuan	60	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	10	Milik pribadi	Perumahan
235	Pabean Cantian - Bongkaran - 02 - 02	Perempuan	50	Islam	SMA	Ibu Rumah Tangga	Rp 5.000.000 - Rp. 10.000.000	≥ Rp 5.000.000	Tidak	0	4	Milik pribadi	Kampung
236	Wiyung-Wiyung-4-6	Perempuan	45	Islam	SD	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	1	Milik pribadi	Perumahan
237	Pabean Cantian - Nyamplungan - 02 - 03	Perempuan	40	Islam	SMA	Ibu Rumah Tangga	≤ Rp. 1.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	5	Milik pribadi	Kampung
238	wiyung-babatan-7-2	Perempuan	42	Islam	SMP	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Perumahan
239	Jambangan - Karah - 02 - 03	Perempuan	26	Islam	Diploma	Ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	≤ Rp. 1.000.000	Ya	1	3	Kontrak	Kampung
240	Wiyung-jajartunggal-4-3	Perempuan	35	Islam	SMA	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Perumahan
241	Wiyung-Jajartunggal-4-3	Perempuan	48	Islam	SMP	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Perumahan
242	Pabean Cantian - Nyamplungan - 03 - 03	Perempuan	45	Islam	Diploma	Ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
243	Wiyung-Babatan-7-2	Perempuan	55	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Perumahan
244	Wiyung-Babatan-7-2	Perempuan	25	Islam	SMA	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	10	Milik pribadi	Perumahan
245	Asemrowo - Asemrowo - 03 - 01	Laki-laki	27	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	5	Milik pribadi	Kampung
246	Jambangan - Karah - 02 - 03	Perempuan	54	Islam	SMA	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung
247	Wiyung-Balas Klumprik-4-7	Perempuan	38	Islam	SMP	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Perumahan
248	Wiyung-Balas Klumprik-4-7	Perempuan	38	Islam	SMA	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Perumahan
249	Asemrowo - Kalianak - 02 - 07	Laki-laki	59	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Kontrak	Kampung
250	Jambangan - Jambangan - 05 - 02	Laki-laki	75	Islam	Sarjana	Pensiunan	Rp. 1.000.000 – Rp. 3.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Kontrak	Kampung
251	Tandes-tandes-2-4	Perempuan	48	Kristen	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	3	Milik pribadi	Perumahan
252	Jambangan - Jambangan - 06 - 02	Perempuan	49	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Kampung
253	Pakal - Pakal - 02 - 01	Perempuan	25	Islam	SMA	Ibu Rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	5	Milik pribadi	Perumahan
254	Pakal - Pakal - 02 - 01	Perempuan	38	Islam	SMA	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	5	Milik pribadi	Perumahan
255	Jambangan - Kebonsari - 03 - 05	Laki-laki	24	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	> Rp. 25.000.000	≥ Rp 5.000.000	Tidak	0	5	Kontrak	Kampung
256	Pakal - Babat Jerawat - 05 - 06	Perempuan	45	Islam	SMP	Ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Kontrak	Perumahan

No Kuesioner	Lokasi Survey [Kecamatan - Kelurahan - RW - RT]	Jenis Kelamin	Berapakah usia anda?	Apakah Agama Anda?	Apakah pendidikan terakhir Anda?	Apakah pekerjaan anda?	Berapakah pendapatan keluarga Anda per bulan?	Berapakah pengeluaran keluarga Anda per bulan?	Apakah Anda memiliki anak usia balita?	Jika Ya, Berapakah jumlah anak anda yang berusia balita? Jika tidak, tulis 0	Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?	Apakah jenis rumah yang keluarga Anda tinggali?	Apakah lingkungan rumah keluarga Anda?
257	Pakal - Babat Jerawat - 03 - 06	Perempuan	46	Katholik	SMA	ibu rumah tangga	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	6	Milik pribadi	Perumahan
258	Jambangan - Pagesangan - 05 - 02	Laki-laki	37	Islam	Diploma	PNS/Kary Swasta/ABRI/Polisi	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Ya	2	5	Milik pribadi	Kampung
259	sambikerep-lontar-4-9	Perempuan	33	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
260	sambikerep-lontar-4-7	Laki-laki	37	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	4	Milik pribadi	Kampung
261	PABEAN CANTIAN - KREMBANGAN UTARA - 4 - 3	Perempuan	29	Kristen	Diploma	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	1	Milik pribadi	Kampung
262	sambikerep-made-3-11	Perempuan	48	Katholik	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
263	sambikerep-made-4-13	Perempuan	56	Islam	SMA	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	2	Milik pribadi	Kampung
264	PABEAN CANTIAN - KREMBANGAN UTARA - 3 - 4	Perempuan	32	Islam	SMA	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	4	Milik pribadi	Kampung
265	PABEAN CANTIAN - KREMBANGAN UTARA - 3 - 4	Laki-laki	39	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	6	Milik pribadi	Kampung
266	PABEAN CANTIAN - PERAK TIMUR - 7- 6	Perempuan	56	Islam	SMP	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
267	ASEMROWO - ASEMROWO - 1 - 3	Perempuan	64	Islam	SD	ibu rumah tangga	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	5	Milik pribadi	Kampung
268	Tambaksari - Pacar Kembang - 6 - 7	Perempuan	48	Islam	Diploma	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	9	Milik pribadi	Kampung
269	ASEMROWO - GENTING - 3 -1	Laki-laki	67	Islam	SMA	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
270	wonocolo - sidosermo - 1 - 1	Laki-laki	49	Islam	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Perumahan
271	ASEMROWO - GREGES - 4 - 4	Perempuan	45	Islam	SMA	ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	3	Milik pribadi	Kampung
272	Tambaksari - Pacar Kembang - 7 - 7	Laki-laki	45	Kristen	Sarjana	Profesional	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	2	Kontrak	Kampung
273	PAKAL - SUMBER REJO - 1- 6	Perempuan	50	Islam	SD	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
274	Tambaksari - Ploso - 10 - 5	Perempuan	44	Islam	SD	Ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	3	Milik pribadi	Kampung
275	PAKAL -BENOWO - 2-1	Laki-laki	50	Islam	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	≥ Rp 5.000.000	Tidak	0	5	Milik pribadi	Kampung
276	PAKAL - BENOWO - 1- 1	Perempuan	16	Islam	SMA	PELAJAR	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
277	Tambaksari-Pacar Kembang - 5 - 16	Laki-laki	72	Islam	SMA	Pensiunan	Rp. 10.000.000 - Rp. 15.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	8	Milik pribadi	Kampung
278	Tambaksari-Pacar Kembang-5-15	Perempuan	47	Islam	SMA	Ibu rumahtangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	6	Milik pribadi	Kampung
279	Gayungan - Ketintang - 8 - 4	Perempuan	66	Islam	Diploma	Pensiunan PLN	Rp. 10.000.000 - Rp. 15.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	1	Milik pribadi	Perumahan
280	Gayungan - Ketintang - 2 - 3	Perempuan	77	Kristen	SMA	Ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
281	Gayungan - Dukuh menanggal - 2 - 2	Perempuan	29	Islam	Sarjana	Wiraswasta	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Ya	2	5	Milik pribadi	Kampung
282	Gayungan - Gayungan - 3 -2	Perempuan	54	Islam	SMP	Ibu rumah tangga	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
283	Sukolilo-Medokan Semampir-02-08	Perempuan	39	Islam	SMP	Ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	1	Milik pribadi	Kampung
284	Tambaksari-Ploso-9-1	Perempuan	54	Islam	SD	ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	6	Milik pribadi	Kampung

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285	Tambaksari-Tambaksari-6-7	Perempuan	69	Kristen	SD	pensiunan	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
286	Gubeng - Baratajaya - 05 -02	Perempuan	59	Islam	Sarjana	Ibu rumah tangga	Rp. 15.000.000 - Rp. 25.000.000	≥ Rp 5.000.000	Ya	2	5	Milik pribadi	Kampung
287	Sukolilo-Medokan Semampir-02-05	Perempuan	33	Islam	SMA	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
288	Gubeng Baratajaya - 06 - 02	Laki-laki	72	Kristen	SMP	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	7	Milik pribadi	Kampung
289	Tambaksari-Tambaksari-6-7	Perempuan	66	Islam	SMP	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	2	Milik pribadi	Kampung
290	Tambaksari-Tambaksari-6-7	Perempuan	61	Islam	SD	ibu rumah tangga	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Ya	1	5	Milik pribadi	Kampung
291	Mulyorejo-Manyar Sabrangan-03-08	Laki-laki	57	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	6	Milik pribadi	Kampung
292	Gubeng - Baratajaya - 07 - 02	Perempuan	68	Islam	SMA	Wiraswasta	Rp. 10.000.000 - Rp. 15.000.000	≥ Rp 5.000.000	Tidak	0	3	Milik pribadi	Kampung
293	Gubeng - Pucang Sewu - 03 - 07	Perempuan	54	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 15.000.000 - Rp. 25.000.000	≥ Rp 5.000.000	Tidak	0	4	Milik pribadi	Kampung
294	Tambaksari-Kapasmadya Baru-1-13	Perempuan	50	Islam	SD	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
295	Gubeng - Pucang Sewu - 06 - 08	Laki-laki	50	Islam	Sarjana	Wiraswasta	> Rp. 25.000.000	≥ Rp 5.000.000	Tidak	0	4	Milik pribadi	Kampung
296	Gubeng - Pucang Sewu - 06 - 08	Laki-laki	65	Islam	SMA	Pensiunan	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
297	Tambaksari-Dukuh Setro-8-1	Perempuan	47	Islam	SMP	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
298	Tambaksari-Pacar keling-10-3	Perempuan	47	Islam	SMP	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	4	Milik pribadi	Rumah susun
299	Mulyorejo-Manyar Sabrangan-03-02	Perempuan	54	Islam	SD	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	6	Kontrak	Kampung
300	Tambaksari-Dukuh Setro-1-8	Perempuan	46	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	4	Milik pribadi	Kampung
301	Mulyorejo-Kalijudan	Perempuan	37	Islam	SMA	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	2	9	Milik pribadi	Kampung
302	Tambaksari-Gading-7-1	Laki-laki	58	Islam	SD	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	2	Milik pribadi	Kampung
303	Tambaksari-Pacak Keling	Laki-laki	67	Islam	SMA	Pensiunan	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	1	Rumah dinas	Kampung
304	Tambaksari-Pacarkeling-10-2	Perempuan	48	Islam	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	2	Milik pribadi	Kampung
305	Tambaksari-Dukuh Setro-4-5	Perempuan	40	Islam	SMP	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
306	Tambaksari-Kapasmadya-9-4	Laki-laki	50	Islam	SD	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	4	Milik pribadi	Kampung
307	Tambaksari-Rangkah-3-3	Perempuan	52	Islam	Sarjana	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	6	Milik pribadi	Kampung
308	Tegalsari-Kedungdoro-10-4	Perempuan	61	Islam	SMP	Ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
309	Tambaksari-Kapasmadya Baru-9-4	Perempuan	58	Islam	SD	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	1	Milik pribadi	Kampung
310	Tegalsari-Wonorejo-11-9	Laki-laki	44	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung
311	Tambaksari-Ploso-10-3	Perempuan	66	Islam	SMA	Ibu rumah tangga	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	2	Milik pribadi	Kampung
312	Tambaksari-Dukuh Setro-1-8	Perempuan	30	Islam	SMA	ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	10	Milik pribadi	Kampung
313	Tambaksari-Gading-7-12	Perempuan	35	Islam	SMP	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	9	Milik pribadi	Kampung
314	Tambaksari-Gading-7-11	Perempuan	60	Islam	SD	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung

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315	Tambaksari-Rangkah-3-4	Perempuan	30	Islam	SMA	ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	2	Milik pribadi	Kampung
316	Tambaksari-Rangkah-2-4	Laki-laki	55	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	6	Milik pribadi	Kampung
317	Tegalsari-Keputran-13-1	Perempuan	55	Islam	SD	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
318	Tambaksari-Wonorejo-8-4	Perempuan	70	Islam	SD	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	2	Milik pribadi	Kampung
319	Tegalsari-Keputran-13-1	Perempuan	27	Islam	SMA	Ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	2	4	Kontrak	Kampung
320	Tegalsari-Kedung Doro-11-7	Laki-laki	61	Islam	SMP	pensiunan	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	2	6	Milik pribadi	Kampung
321	Tegalsari-Kedungdoro-10-4	Perempuan	50	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
322	Tegalsari-Keputran-13-2	Perempuan	59	Islam	SD	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	2	Kontrak	Kampung
323	Bubutan-Jepara-I-2	Perempuan	48	Islam	SMA	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
324	Tambaksari-Ploso-5-10	Perempuan	64	Islam	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	2	Milik pribadi	Kampung
325	Bubutan-Jepara-I-2	Perempuan	44	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
326	Asemrowo - Tambak Sarioso - 02 - 06	Perempuan	38	Hindu	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	6	Milik pribadi	Kampung
327	Bubutan-Jepara-3-III	Laki-laki	30	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	10	Milik pribadi	Kampung
328	Dukuh Pakis-Dukuh Pakis-I-5	Laki-laki	53	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
329	Sukolilo - Mulyorejo	Perempuan	53	Katholik	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Perumahan
330	tenggilis mejoyo - panjang jiwo - 3 - 1	Perempuan	22	Islam	Diploma	Mahasiswa	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
331	Dukuh Pakis-Dukuh Pakis-I-3	Perempuan	30	Islam	Diploma	Wiraswasta	> Rp. 25.000.000	> Rp. 5.000.000	Ya	1	7	Milik pribadi	Kampung
332	Sawahan-Sawahan-IX-4	Perempuan	53	Islam	SMA	Karyawan Swasta	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	3	Milik pribadi	Kampung
333	tenggilis mejoyo - kendangsari - 4 - 3	Perempuan	42	Islam	SMP	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
334	tenggilis mejoyo - kendangsari - 3 - 4	Perempuan	49	Islam	SMA	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung
335	wonocolo - sidosermo - 6 - 2	Perempuan	211	Islam	SMA	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Perumahan
336	tenggilis mejoyo - tenggilis mejoyo - 4 - 4	Perempuan	56	Islam	Sarjana	Mahasiswa	Rp 5.000.000 - Rp. 10.000.000	> Rp. 5.000.000	Tidak	0	2	Milik pribadi	Kampung
337	wonocolo - margorejo - 2 - 1	Laki-laki	30	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung
338	wonocolo - margorejo - 2 - 1	Laki-laki	67	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	≤ Rp. 1.000.000	Tidak	0	3	Milik pribadi	Kampung
339	Kel. Siwalankerto-5-3	Perempuan	66	Islam	SD	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
340	wonocolo - siwalankerto - 5 - 3	Perempuan	65	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
341	Kel. Jemur Wonosari-7-2	Laki-laki	52	Islam	Sarjana	ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	2	Milik pribadi	Perumahan
342	Bendul Merisi-7-4	Perempuan	32	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 15.000.000 - Rp. 25.000.000	> Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
343	Darmo-3-6	Perempuan	71	Islam	SD	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	7	Milik pribadi	Kampung
344	Darmo -3-6	Perempuan	49	Islam	SMA	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung

No Kuesioner	Lokasi Survey [Kecamatan - Kelurahan - RW - RT]	Jenis Kelamin	Berapakah usia anda?	Apakah Agama Anda?	Apakah pendidikan terakhir Anda?	Apakah pekerjaan anda?	Berapakah pendapatan keluarga Anda per bulan?	Berapakah pengeluaran keluarga Anda per bulan?	Apakah Anda memiliki anak usia balita?	Jika Ya, Berapakah jumlah anak anda yang berusia balita? Jika tidak, tulis 0	Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?	Apakah jenis rumah yang keluarga Anda tinggali?	Apakah lingkungan rumah keluarga Anda?
345	Darmo -3- 6	Perempuan	52	Islam	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
346	Wonokromo - 6-5	Laki-laki	77	Islam	SD	ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Kos keluarga	Kampung
347	Wonokromo -6- 5	Laki-laki	57	Islam	SD	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	1	Milik pribadi	Kampung
348	wonokromo - sawunggaling - 4 - 6	Laki-laki	60	Islam	Diploma	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Kampung
349	Wonokromo-Jagir - 6-3	Laki-laki	58	Islam	Diploma	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	2	4	Milik pribadi	Kampung
350	Wonokromo-Jagir-2-3	Perempuan	21	Islam	SMA	Pensiun	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	4	Milik pribadi	Kampung
351	Wonokrom - Jagir - 2 -3	Perempuan	72	Islam	SMA	Profesional	Rp 5.000.000 - Rp. 10.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	1	Milik pribadi	Kampung
352	wonokromo - sawunggaling - 6 - 4	Perempuan	58	Islam	SMA	Pensiun	Rp 5.000.000 - Rp. 10.000.000	≤ Rp. 1.000.000	Tidak	0	1	Milik pribadi	Perumahan
353	Tenggilis Mejoyo-Kutisari-Kutisari-3-2	Laki-laki	60	Islam	Sarjana	ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	4	Milik pribadi	Kampung
354	Lakarsantri - Bangkingan	Perempuan	40	Islam	SMA	Pegawai	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	7	Milik pribadi	Perumahan
355	Tenggilis Mejoyo-Kutisari- 3 - 2	Laki-laki	45	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
356	wonocolo - jemur wonosari - 7 - 3	Perempuan	65	Islam	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	> Rp. 5.000.000	Tidak	0	6	Milik pribadi	Perumahan
357	Tenggilis Mejoyo - Panjang Jiwo - "2"-"3"	Perempuan	25	Islam	SMA	pensiunan	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Kos keluarga	Kampung
358	wonocolo - bendul merisi - 7 - 4	Perempuan	29	Islam	SMA	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	3	Milik pribadi	Kampung
359	wonokromo - sawunggaling - 6 - 4	Perempuan	29	Islam	SMA	ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	2	9	Kontrak	Kampung
360	Wonokromo- Ngagel- 5 - 4	Perempuan	54	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	2	7	Kontrak	Kampung
361	Wonokromo - Ngagel - 5 - 4	Perempuan	40	Islam	SD	ibu rumah tangga	≤ Rp. 1.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Kontrak	Kampung
362	Jambangan-Kebonsari-02-02	Perempuan	31	Islam	Sarjana	ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Perumahan
363	Rungkut-Kalirungkut-09-04	Laki-laki	48	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 10.000.000 - Rp. 15.000.000	> Rp. 5.000.000	Tidak	0	3	Milik pribadi	Perumahan
364	Wonokrom - Ngagel - 5 - 4	Perempuan	34	Islam	Diploma	Wiraswasta	Rp. 10.000.000 - Rp. 15.000.000	> Rp. 5.000.000	Tidak	0	5	Kontrak	Kampung
365	wonokromo - ngagel - 5 - 4	Perempuan	43	Kristen	SD	ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Kontrak	Kampung
366	Wonokromo - Darmo -3- 7	Perempuan	35	Islam	SMA	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Kos keluarga	Kampung
367	Wonokromo - Jagir - 8 -1	Perempuan	30	Islam	SMA	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
368	wonocolo - bendul merisi - 7 - 4	Laki-laki	71	Islam	Sarjana	ibu rumah tangga	Rp. 3.000.000 – Rp. 5.000.000	> Rp. 5.000.000	Ya	1	15	Milik pribadi	Kampung
369	Sawahan-Petemon-I-1	Perempuan	35	Islam	Diploma	pensiunan TNI AL	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	2	8	Milik pribadi	Kampung
370	Wonokromo - Jagir - 1-9	Perempuan	44	Islam	Sarjana	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	2	8	Milik pribadi	Kampung
371	Sukolilo-Nginden Jangkungan-5-7	Perempuan	50	Islam	SMA	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
372	Rungkut-Medokan Ayu-04-03	Perempuan	54	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Perumahan
373	Sukolilo-Semolowaru-06-07	Perempuan	53	Hindu	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	> Rp. 5.000.000	Tidak	0	3	Milik pribadi	Perumahan
374	Rungkut-Penjaringan Sari-7-4	Perempuan	48	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Perumahan

No Kuesioner	Lokasi Survey [Kecamatan - Kelurahan - RW - RT]	Jenis Kelamin	Berapakah usia anda?	Apakah Agama Anda?	Apakah pendidikan terakhir Anda?	Apakah pekerjaan anda?	Berapakah pendapatan keluarga Anda per bulan?	Berapakah pengeluaran keluarga Anda per bulan?	Apakah Anda memiliki anak usia balita?	Jika Ya, Berapakah jumlah anak anda yang berusia balita? Jika tidak, tulis 0	Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?	Apakah jenis rumah yang keluarga Anda tinggali?	Apakah lingkungan rumah keluarga Anda?
375	Sukolilo-Keputih-1-4	Perempuan	50	Kristen	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	> Rp. 5.000.000	Tidak	0	4	Milik pribadi	Apartement
376	Sawahan-Kupang Prajan-IV-3	Laki-laki	54	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 10.000.000 - Rp. 15.000.000	> Rp. 5.000.000	Tidak	0	2	Milik pribadi	Kampung
377	Sawahan-Sawahan-I-1	Perempuan	52	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	> Rp. 5.000.000	Tidak	0	6	Milik pribadi	Kampung
378	Sawahan-Kupang Prajan-VI-4	Perempuan	54	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
379	Sawahan-Kupang Prajan-II-3	Perempuan	25	Islam	Diploma	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	6	Milik pribadi	Kampung
380	Sawahan-Banyu Urip-V-3	Perempuan	36	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Kampung
381	Sawahan-Kupang Prajan-VI-4	Perempuan	26	Islam	SMA	Mahasiswa	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	3	Milik pribadi	Kampung
382	Sukolilo-Menur Pumpungan-8-4	Perempuan	47	Katholik	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	2	6	Milik pribadi	Perumahan
383	Gunung Anyar-Rungkut Tengak-06-01	Perempuan	50	Islam	Diploma	Ibu Rumah Tangga	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Perumahan
384	Karang pilang-Kedurus-05-06	Perempuan	50	Islam	Sarjana	Ibu Rumah Tangga	Rp 5.000.000 - Rp. 10.000.000	> Rp. 5.000.000	Tidak	0	5	Milik pribadi	Kampung
385	Jambangan-Pagesangan-3-6	Perempuan	53	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
386	Tambaksari-Kapas Madya BAru-12-5	Perempuan	50	Islam	Diploma	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
387	Tambak Sari - Ploso - 8 - 4	Perempuan	41	Islam	Sarjana	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
388	Rungkut - Medokan Ayu - 09 - 01	Perempuan	20	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 10.000.000 - Rp. 15.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
389	Krembangan - Dupak - 04 - 08	Perempuan	51	Islam	SMP	Mahasiswa	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	3	Milik pribadi	Kampung
390	Krembangan - Kemayoran - 05 - 12	Laki-laki	30	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	6	Milik pribadi	Kampung
391	Krembangan - Dupak - 04 - 03	Perempuan	34	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	7	Milik pribadi	Kampung
392	Krembangan - Dupak - 05 - 04	Perempuan	42	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	2	6	Milik pribadi	Kampung
393	Krembangan - Dupak - 04 - 04	Perempuan	33	Islam	SMA	Ibu Rumah Tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	8	Milik pribadi	Kampung
394	Krembangan - Perak Barat - 03 - 04	Perempuan	31	Islam	SMA	Ibu rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	3	5	Milik pribadi	Kampung
395	Krembangan - Perak Barat - 03 - 04	Perempuan	44	Islam	SMA	Ibu Rumah Tangga	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	1	4	Milik pribadi	Kampung
396	Krembangan - Perak Barat - 03 - 04	Laki-laki	86	Islam	SD	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
397	Tambak Sari - Pleso - 11 - 02	Laki-laki	40	Islam	Sarjana	Pensiunan Pelni	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	8	Milik pribadi	Perumahan
398	Lakarsantri - Jeruk - 0 - 0	Perempuan	53	Islam	SD	PNS/Kary Swasta/ABRI/Polisi	Rp. 15.000.000 - Rp. 25.000.000	> Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
399	karangpilang - kebraon - 3 -6	Laki-laki	47	Islam	Sarjana	Ibu Rumah Tangga	Rp. 10.000.000 - Rp. 15.000.000	> Rp. 5.000.000	Ya	3	8	Milik pribadi	Perumahan
400	Lakarsantri - Jeruk - 1 - 2	Perempuan	56	Islam	SD	PNS/Kary Swasta/ABRI/Polisi	Rp. 15.000.000 - Rp. 25.000.000	> Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
401	Lakarsantri - Lakarsantri - 04 - 01	Perempuan	36	Islam	SMP	Wiraswasta	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	3	Milik pribadi	Kampung
402	Sukolilo - Keputih - 05 - 04	Laki-laki	46	Kristen	Sarjana	Ibu Rumah Tangga	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	6	Milik pribadi	Perumahan
403	Sawahan - Kupangkrajan - 03 - 01	Perempuan	56	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	> Rp. 25.000.000	> Rp. 5.000.000	Tidak	0	11	Milik pribadi	Kampung
404	Sukolilo - Keputih - 05 - 03	Perempuan	18	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Rumah dinas	Perumahan

No Kuesioner	Lokasi Survey [Kecamatan - Kelurahan - RW - RT]	Jenis Kelamin	Berapakah usia anda?	Apakah Agama Anda?	Apakah pendidikan terakhir Anda?	Apakah pekerjaan anda?	Berapakah pendapatan keluarga Anda per bulan?	Berapakah pengeluaran keluarga Anda per bulan?	Apakah Anda memiliki anak usia balita?	Jika Ya, Berapakah jumlah anak anda yang berusia balita? Jika tidak, tulis 0	Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?	Apakah jenis rumah yang keluarga Anda tinggali?	Apakah lingkungan rumah keluarga Anda?
405	Gunung Anyar - Rungkut - 04 - 04	Perempuan	18	Islam	SMA	Mahasiswa	Rp. 10.000.000 - Rp. 15.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	5	Milik pribadi	Perumahan
406	Mulyorejo - Kalijudan - 3 - 4	Perempuan	52	Islam	Sarjana	Mahasiswa	> Rp. 25.000.000	> Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
407	Gayungan -Ketintang - 02 - 04	Laki-laki	29	Islam	Sarjana	Wiraswasta	Rp. 10.000.000 - Rp. 15.000.000	> Rp. 5.000.000	Tidak	0	11	Milik pribadi	Perumahan
408	Sukolilo - Keputih - 07 - 02	Laki-laki	20	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	> Rp. 25.000.000	> Rp. 5.000.000	Ya	2	5	Rumah dinas	Perumahan
409	Sukolilo - keputih - 5 - 2	Perempuan	18	Islam	SMA	Mahasiswa	Rp 5.000.000 - Rp. 10.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	8	Rumah dinas	Rumah dinas
410	Rungkut - Medokan Ayu - 08 - 08	Perempuan	19	Hindu	SMA	Mahasiswa	Rp. 15.000.000 - Rp. 25.000.000	> Rp. 5.000.000	Tidak	0	5	Milik pribadi	Perumahan
411	Karangpilang - Kebraon - 13 - 03	Perempuan	28	Islam	Sarjana	Mahasiswa	Rp. 15.000.000 - Rp. 25.000.000	> Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
412	Lakarsantri	Perempuan	41	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp. 10.000.000 - Rp. 15.000.000	Rp. 3.000.000 – Rp. 5.000.000	Ya	2	5	Milik pribadi	Perumahan
413	Lakarsantri - Lidah Wetan - 06 - 01	Laki-laki	39	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 10.000.000 - Rp. 15.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	3	Milik pribadi	Kampung
414	Jambangan - Pagesangan - 08 - 01	Perempuan	19	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 3.000.000 – Rp. 5.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	4	Milik pribadi	Perumahan
415	Mulyorejo - Dukuh Sutorejo - 08 - 05	Perempuan	18	Kristen	SMA	Mahasiswa	Rp 5.000.000 - Rp. 10.000.000	> Rp. 5.000.000	Tidak	0	5	Milik pribadi	Perumahan
416	Sukolilo - Keputih	Laki-laki	20	Islam	SMA	Mahasiswa	Rp. 10.000.000 - Rp. 15.000.000	> Rp. 5.000.000	Tidak	0	3	Kontrak	Perumahan
417	Krembangan	Perempuan	48	Islam	Sarjana	Mahasiswa	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	3	Rumah dinas	Kampung
418	Asemrowo - Asemrowo - 02 - 06	Perempuan	18	Islam	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 10.000.000 - Rp. 15.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	3	Milik pribadi	Kampung
419	Pabean Cantian - Perak Timur - 07 - 01	Laki-laki	19	Islam	Sarjana	Mahasiswa	Rp. 15.000.000 - Rp. 25.000.000	> Rp. 5.000.000	Tidak	0	7	Milik pribadi	Kampung
420	Tegalsari - Keputran - 05 - 03	Laki-laki	40	Islam	Sarjana	Mahasiswa	Rp. 15.000.000 - Rp. 25.000.000	> Rp. 5.000.000	Tidak	0	8	Milik pribadi	Perumahan
421	Gayungan - Menanggal - 6 -1	Laki-laki	18	Islam	SMA	Mahasiswa	Rp. 10.000.000 - Rp. 15.000.000	> Rp. 5.000.000	Tidak	0	3	Milik pribadi	Perumahan
422	Karang Pilang - Kebraon - 06 - 13	Perempuan	22	Islam	SMA	Mahasiswa	Rp. 3.000.000 – Rp. 5.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	2	Milik pribadi	Perumahan
423	Wonorejo - rungkut - 3 - 2	Laki-laki	19	Islam	SMA	Mahasiswa	Rp. 10.000.000 - Rp. 15.000.000	> Rp. 5.000.000	Tidak	0	6	Milik pribadi	Perumahan
424	Gubeng - Baratajaya - 03 - 08	Perempuan	17	Kristen	SMA	Mahasiswa	Rp. 15.000.000 - Rp. 25.000.000	> Rp. 5.000.000	Tidak	0	4	Milik pribadi	Perumahan
425	Wonocolo - Bendul Merisi - 05 - 03	Perempuan	52	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	> Rp. 5.000.000	Tidak	0	4	Milik pribadi	Kampung
426	Wonokromo - Jagir - 05 - 02	Perempuan	31	Islam	Sarjana	PNS/Kary Swasta/ABRI/Polisi	Rp 5.000.000 - Rp. 10.000.000	> Rp. 5.000.000	Ya	1	3	Kontrak	Kampung
427	Sukolilo - Semolowaru	Perempuan	19	Hindu	Sarjana	Mahasiswa	Rp 5.000.000 - Rp. 10.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	4	Milik pribadi	Perumahan
428	Mulyorejo - Mulyorejo - 05 - 06	Laki-laki	19	Islam	SMA	Mahasiswa	> Rp. 25.000.000	> Rp. 5.000.000	Tidak	0	5	Milik pribadi	Perumahan
429	KREMBANGAN-KEMAYORAN-1-4	Laki-laki	65	Islam	SMP	Wiraswasta	≤ Rp. 1.000.000	≤ Rp. 1.000.000	Tidak	0	2	Milik pribadi	Kampung
430	Lakarsantri - Lidah Kulon - 01 - 04	Perempuan	40	Kristen	SMA	PNS/Kary Swasta/ABRI/Polisi	Rp. 10.000.000 - Rp. 15.000.000	> Rp. 5.000.000	Tidak	0	3	Milik pribadi	Perumahan
431	Mulyorejo - Kalisari	Laki-laki	20	Katholik	SMA	Mahasiswa	Rp. 15.000.000 - Rp. 25.000.000	Rp. 3.000.000 – Rp. 5.000.000	Tidak	0	2	Kontrak	Apartement
432	KREMBANGAN-KEMAYORAN-8-3	Laki-laki	45	Islam	SMA	Wiraswasta	Rp 5.000.000 - Rp. 10.000.000	> Rp. 5.000.000	Ya	1	6	Milik pribadi	Kampung
433	KREMBANGAN-MOROKREMBANGAN-3-9	Laki-laki	73	Kristen	SMA	PENSIUNAN AL	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	2	Milik pribadi	Kampung

No Kuesioner	Lokasi Survey [Kecamatan - Kelurahan - RW - RT]	Jenis Kelamin	Berapakah usia anda?	Apakah Agama Anda?	Apakah pendidikan terakhir Anda?	Apakah pekerjaan anda?	Berapakah pendapatan keluarga Anda per bulan?	Berapakah pengeluaran keluarga Anda per bulan?	Apakah Anda memiliki anak usia balita?	Jika Ya, Berapakah jumlah anak anda yang berusia balita? Jika tidak, tulis 0	Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?	Apakah jenis rumah yang keluarga Anda tinggali?	Apakah lingkungan rumah keluarga Anda?
434	KREMBANGAN-MOROKREMBANGAN-5/3	Perempuan	61	Islam	SD	pensiunan sampoerna	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	6	Milik pribadi	Kampung
435	KREMBANGAN - MOROKREMBANGAN - 3 -6	Laki-laki	41	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
436	KREMBANGAN - KREMBANGAN SELATAN - 1 - 4	Laki-laki	56	Islam	SMP	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	3	Milik pribadi	Kampung
437	KREMBANGAN - KREMBANGAN SELATAN - 1- 4	Perempuan	54	Islam	SMA	ibu rumah tangga	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	4	Milik pribadi	Kampung
438	KREMBANGAN - KREMBANGAN SELATAN - 14 - 6	Laki-laki	39	Islam	SMA	Wiraswasta	Rp. 1.000.000 – Rp. 3.000.000	Rp. 1.000.000 – Rp. 3.000.000	Ya	1	5	Milik pribadi	Kampung
439	Gayungan - Ketintang Baru - 03 - 03	Laki-laki	18	Islam	SMA	Mahasiswa	Rp. 15.000.000 - Rp. 25.000.000	> Rp. 5.000.000	Tidak	0	3	Milik pribadi	Kampung
440	Sawahan - Pakis - 05 - 01	Perempuan	19	Islam	SMA	Mahasiswa	Rp. 15.000.000 - Rp. 25.000.000	Rp. 1.000.000 – Rp. 3.000.000	Tidak	0	5	Milik pribadi	Kampung

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
1	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	51 - 75%	Tidak	Ya	> 30%	Ya	1- 5%	Ya	Tidak
2	Ya	Tidak	Ya	1	0	1	0	0	0	0	1	1 - 25%	Tidak	Tidak	21 - 30%	Ya	1- 5%	Tidak	Ya
3	Ya	Ya	Ya	0	0	1	1	1	0	1	1		Tidak	Ya	> 30%	Ya	1- 5%	Tidak	Tidak
4	Tidak	Ya	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	1 - 10%	Ya	1- 5%	Ya	Ya
5	Ya	Tidak	Ya	0	0	1	1	1	0	1	1		Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Tidak
6	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Ya	11 - 20%	Tidak	Ya
7	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Ya
8	Ya	Ya	Ya	0	0	1	0	1	0	0	1		Tidak	Ya	> 30%	Ya	1- 5%	Tidak	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
9	Ya	Tidak	Tidak	0	0	0	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
10	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	1 - 10%	Ya	1- 5%	Ya	Tidak
11	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Tidak	Tidak
12	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	11 - 20%	Ya	1- 5%	Tidak	Ya
13	Tidak	Tidak	Tidak	0	1	1	0	1	0	0	1	1 - 25%	Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
14	Ya	Tidak	Ya	0	0	1	1	1	0	0	1	26 - 50%	Tidak	Ya	> 30%	Ya	1- 5%	Ya	Ya
15	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Tidak	Tidak
16	Tidak	Tidak	Ya	0	0	1	1	1	0	0	1	1 - 25%	Tidak	Ya	> 30%	Ya	1- 5%	Tidak	Ya
17	Tidak	Tidak	Ya	0	0	1	1	0	1	0	1		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
18	Ya	Tidak	Tidak	1	0	1	0	1	0	0	1	1 - 25%	Tidak	Ya	> 30%	Ya	1- 5%	Tidak	Ya
19	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	11 - 20%	Tidak	1- 5%	Tidak	Tidak
20	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	> 30%	Ya	6 - 10%	Ya	Tidak
21	Ya	Tidak	Ya	0	0	1	1	0	1	0	1	1 - 25%	Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Tidak
22	Ya	Tidak	Tidak	0	0	0	1	1	0	1	1	1 - 25%	Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
23	Ya	Tidak	Tidak	0	0	1	1	1	0	0	1	1 - 25%	Tidak	Ya	> 30%	Ya	1- 5%	Tidak	Ya
24	Ya	Tidak	Tidak	0	1	1	0	0	0	1	1	1 - 25%	Tidak	Ya	11 - 20%	Ya	6 - 10%	Ya	Tidak
25	Tidak	Ya	Ya	0	0	1	1	0	0	0	1	26 - 50%	Ya		11 - 20%	Tidak	1- 5%	Ya	Ya
26	Ya	Tidak	Ya	0	0	1	1	1	0	0	1	1 - 25%	Ya	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
27	Tidak	Tidak	Tidak	0	0	0	1	1	0	1	0	1 - 25%	Ya	Ya	> 30%	Tidak	> 20%	Ya	Ya
28	Ya	Tidak	Ya	0	0	1	0	1	0	0	1	1 - 25%	Tidak	Tidak	> 30%	Tidak	6 - 10%	Tidak	Ya
29	Ya	Tidak	Ya	0	0	1	0	1	0	0	1	26 - 50%	Tidak	Tidak	> 30%	Ya	6 - 10%	Ya	Ya
30	Ya	Tidak	Ya	0	0	1	0	1	0	0	1	1 - 25%	Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
31	Tidak	Tidak	Ya	0	0	1	1	0	0	1	0	26 - 50%	Ya	Ya	11 - 20%	Tidak	6 - 10%	Ya	Tidak
32	Tidak	Tidak	Ya	0	0	1	0	1	0	0	1	1 - 25%	Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
33	Ya	Tidak	Ya	0	0	1	0	1	0	1	0	1 - 25%	Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
34	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	21 - 30%	Tidak	> 20%	Ya	Ya
35	Ya	Tidak	Tidak	0	0	1	1	0	0	1	0	26 - 50%	Tidak	Tidak	> 30%	Ya	1- 5%	Ya	Ya
36	Tidak	Tidak	Ya	0	0	1	0	1	0	0	1	26 - 50%	Tidak	Ya	> 30%	Ya	1- 5%	Ya	Ya
37	Ya	Tidak	Ya	0	0	0	0	1	0	1	1	51 - 75%	Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
38	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	51 - 75%	Tidak	Ya	> 30%	Ya	> 20%	Ya	Ya
39	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	51 - 75%	Tidak	Ya	> 30%	Ya	> 20%	Ya	Ya
40	Ya	Tidak	Tidak	1	0	1	1	0	0	0	0	76 - 100 %	Ya	Ya	> 30%	Tidak	6 - 10%	Ya	Tidak
41	Ya	Tidak	Ya	0	0	1	1	1	0	0	0	76 - 100 %	Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
42	Ya	Tidak	Ya	1	0	1	1	0	0	0	0	76 - 100 %	Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
43	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	1 - 25%	Tidak	Tidak	> 30%	Tidak	1- 5%	Ya	Ya
44	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	26 - 50%	Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
45	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Ya	> 30%	Ya	1- 5%	Tidak	Ya
46	Ya	Ya	Ya	1	1	1	1	0	0	0	0	1 - 25%	Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
47	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	76 - 100 %	Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
48	Ya	Tidak	Ya	0	1	1	1	0	0	0	0	1 - 25%	Tidak	Ya	> 30%	Tidak	6 - 10%	Tidak	Ya
49	Ya	Tidak	Tidak	1	0	0	1	0	0	0	1	51 - 75%	Tidak	Ya	> 30%	Tidak	1- 5%	Ya	Ya
50	Ya	Tidak	Ya	0	0	1	0	1	0	0	1	26 - 50%	Tidak	Ya	> 30%	Tidak	1- 5%	Ya	Ya
51	Tidak	Tidak	Ya	0	0	0	1	1	0	0	1	1 - 25%	Tidak	Ya	> 30%	Tidak	> 20%	Ya	Ya
52	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	1 - 25%	Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
53	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Ya	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
54	Ya	Tidak	Tidak	0	0	1	1	1	0	1	1	76 - 100 %	Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Tidak
55	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
56	Tidak	Tidak	Ya	0	0	1	0	1	0	0	1	26 - 50%	Tidak	Ya	21 - 30%	Tidak	1- 5%	Ya	Ya
57	Tidak	Tidak	Ya	0	0	0	0	1	0	1	1	1 - 25%	Tidak	Tidak	> 30%	Ya	11 - 20%	Ya	Ya
58	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
59	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	1 - 10%	Ya	1- 5%	Tidak	Tidak
60	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	1 - 25%	Tidak	Ya	1 - 10%	Tidak	1- 5%	Tidak	Ya
61	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	1 - 10%	Ya	1- 5%	Tidak	Tidak
62	Ya	Ya	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Tidak
63	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	1 - 10%	Ya	1- 5%	Ya	Tidak
64	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	1 - 10%	Tidak	1- 5%	Tidak	Tidak
65	Ya	Tidak	Ya	0	0	1	0	1	0	0	1	1 - 25%	Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
66	Ya	Tidak	Ya	0	0	1	1	0	1	1	1		Tidak	Tidak	11 - 20%	Ya	> 20%	Ya	Ya
67	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	1 - 10%	Ya	1- 5%	Tidak	Tidak
68	Ya	Tidak	Ya	1	0	0	1	1	0	0	0	51 - 75%	Tidak	Tidak	> 30%	Tidak	1- 5%	Ya	Ya
69	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	1 - 10%	Ya	1- 5%	Ya	Tidak
70	Tidak	Ya	Tidak	0	0	0	0	0	0	0	0		Ya		1 - 10%	Tidak	1- 5%	Ya	Ya
71	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	1 - 25%	Tidak	Ya	> 30%	Ya	1- 5%	Ya	Ya
72	Tidak	Ya	Ya	0	1	1	1	1	0	0	1		Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Tidak
73	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	26 - 50%	Tidak	Ya	> 30%	Tidak	6 - 10%	Ya	Ya
74	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	1 - 25%	Tidak	Ya	> 30%	Tidak	6 - 10%	Ya	Ya
75	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	51 - 75%	Tidak	Tidak	> 30%	Tidak	1- 5%	Ya	Ya
76	Tidak	Tidak	Ya	0	0	1	0	1	0	0	1	1 - 25%	Tidak	Ya	> 30%	Tidak	6 - 10%	Ya	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
77	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	76 - 100 %	Tidak	Ya	> 30%	Tidak	> 20%	Ya	Ya
78	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
79	Ya	Tidak	Ya	0	0	1	0	1	0	0	1	1 - 25%	Tidak	Ya	> 30%	Tidak	6 - 10%	Tidak	Ya
80	Tidak	Tidak	Ya	0	0	0	1	1	0	0	1	1 - 25%	Tidak	Ya	> 30%	Ya	1- 5%	Tidak	Ya
81	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	26 - 50%	Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
82	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	1- 5%	Ya	Tidak
83	Ya	Ya	Tidak	1	0	1	1	1	0	0	1	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
84	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Ya	Tidak	11 - 20%	Ya	1- 5%	Ya	Tidak
85	Ya	Tidak	Tidak	0	0	1	0	1	0	0	1		Ya		> 30%	Ya	6 - 10%	Ya	Ya
86	Ya	Tidak	Ya	1	0	0	1	0	1	0	0	1 - 25%	Tidak	Ya	> 30%	Tidak	> 20%	Tidak	Ya
87	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	26 - 50%	Tidak	Tidak	21 - 30%	Ya	1- 5%	Ya	Tidak
88	Tidak	Tidak	Tidak	1	0	1	1	1	0	0	1	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
89	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
90	Ya	Tidak	Ya	0	0	1	1	0	1	0	1	1 - 25%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Tidak
91	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	1 - 10%	Ya	6 - 10%	Ya	Tidak
92	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	1 - 10%	Ya	1- 5%	Ya	Tidak
93	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	1 - 10%	Ya	6 - 10%	Ya	Tidak
94	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	1 - 10%	Ya	6 - 10%	Ya	Tidak
95	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	1- 5%	Ya	Tidak
96	Ya	Ya	Ya	0	1	0	1	0	1	0	0	1 - 25%	Tidak	Ya	> 30%	Ya	> 20%	Ya	Ya
97	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	76 - 100 %	Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Tidak

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
98	Tidak	Tidak	Tidak	0	0	0	1	1	0	0	1	76 - 100 %	Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
99	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
100	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
101	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	76 - 100 %	Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
102	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Ya	Tidak
103	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	76 - 100 %	Tidak	Tidak	> 30%	Ya	> 20%	Ya	Tidak
104	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	76 - 100 %	Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
105	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	76 - 100 %	Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
106	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	76 - 100 %	Tidak	Ya	> 30%	Ya	> 20%	Ya	Ya
107	Ya	Tidak	Ya	0	0	1	0	1	0	0	1		Tidak	Tidak	> 30%	Ya	1- 5%	Ya	Tidak
108	Ya	Tidak	Ya	0	0	0	1	0	1	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
109	Ya	Tidak	Tidak	0	0	1	1	0	0	1	0		Tidak	Ya	11 - 20%	Tidak	6 - 10%	Tidak	Tidak
110	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	6 - 10%	Tidak	Ya
111	Ya	Tidak	Ya	0	0	1	1	0	1	0	1		Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Tidak
112	Ya	Tidak	Ya	1	1	0	1	1	0	0	0		Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Tidak
113	Ya	Tidak	Ya	0	0	1	0	1	0	1	1		Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Tidak
114	Ya	Tidak	Ya	0	0	0	1	1	1	1	0		Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Tidak
115	Ya	Tidak	Ya	0	1	1	1	1	0	0	0	26 - 50%	Tidak	Tidak	> 30%	Ya	11 - 20%	Ya	Tidak
116	Ya	Tidak	Ya	0	0	1	1	1	0	0	1	26 - 50%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Tidak
117	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Tidak

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
118	Tidak	Tidak	Ya	0	0	1	1	1	1	0	0		Tidak	Ya	> 30%	Ya	> 20%	Tidak	Ya
119	Ya	Tidak	Tidak	0	0	0	0	1	1	1	1	1 - 25%	Tidak	Tidak	11 - 20%	Ya	1- 5%	Ya	Tidak
120	Ya	Tidak	Tidak	0	0	1	1	1	0	1	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Ya
121	Ya	Tidak	Ya	0	0	1	0	1	1	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
122	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	11 - 20%	Tidak	Ya
123	Tidak	Tidak	Tidak	0	1	0	0	0	0	1	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
124	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Ya
125	Ya	Tidak	Tidak	0	0	0	1	1	1	0	1	26 - 50%	Tidak	Tidak	21 - 30%	Ya	6 - 10%	Ya	Ya
126	Ya	Tidak	Tidak	0	0	1	0	1	0	0	1		Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
127	Ya	Ya	Ya	0	0	1	0	1	0	1	0	26 - 50%	Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Ya
128	Ya	Tidak	Tidak	0	0	1	0	1	1	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Tidak
129	Ya	Tidak	Tidak	0	0	1	1	0	1	1	0	26 - 50%	Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Ya
130	Ya	Tidak	Tidak	0	0	1	1	1	0	1	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	11 - 20%	Ya	Ya
131	Ya	Tidak	Ya	0	0	0	1	1	0	1	1	1 - 25%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Ya
132	Tidak	Tidak	Ya	0	0	1	1	1	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
133	Ya	Tidak	Tidak	0	1	1	1	1	0	0	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Ya
134	Ya	Tidak	Ya	0	1	1	0	1	0	1	1		Tidak	Ya	> 30%	Tidak	> 20%	Tidak	Tidak
135	Ya	Ya	Ya	0	0	1	1	1	0	0	1	26 - 50%	Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Ya
136	Ya	Ya	Ya	0	0	1	0	1	0	1	0		Tidak	Tidak	11 - 20%	Ya	> 20%	Tidak	Ya
137	Tidak	Tidak	Tidak	0	0	1	1	1	0	0	1		Tidak	Ya	> 30%	Tidak	> 20%	Tidak	Tidak
138	Tidak	Tidak	Tidak	0	1	1	0	1	0	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
139	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
140	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
141	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
142	Tidak	Tidak	Ya	0	0	0	1	1	0	0	1		Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Ya
143	Tidak	Tidak	Ya	0	0	0	1	1	0	0	1		Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
144	Ya	Tidak	Tidak	1	0	1	1	1	0	0	0	26 - 50%	Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Ya
145	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	21 - 30%	Tidak	11 - 20%	Tidak	Tidak
146	Ya	Tidak	Ya	0	0	0	1	0	1	0	0		Tidak	Ya	> 30%	Tidak	> 20%	Tidak	Ya
147	Ya	Tidak	Tidak	1	0	1	1	1	0	0	0	26 - 50%	Tidak	Tidak	1 - 10%	Ya	6 - 10%	Ya	Ya
148	Ya	Ya	Tidak	0	1	0	0	0	0	1	0		Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
149	Tidak	Tidak	Tidak	0	0	1	1	1	0	0	0		Tidak	Tidak	> 30%	Tidak	1- 5%	Ya	Ya
150	Ya	Tidak	Ya	0	1	1	0	1	0	0	0		Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
151	Ya	Tidak	Tidak	0	0	1	0	1	0	0	1		Tidak	Ya	11 - 20%	Ya	1- 5%	Tidak	Ya
152	Ya	Ya	Ya	0	1	0	1	0	0	1	0		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Tidak
153	Tidak	Tidak	Ya	0	0	1	0	1	0	0	1		Tidak	Tidak	> 30%	Tidak	1- 5%	Ya	Ya
154	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Ya	11 - 20%	Tidak	1- 5%	Tidak	Ya
155	Ya	Ya	Tidak	0	0	0	0	0	0	0	0		Tidak	Ya	> 30%	Ya	6 - 10%	Ya	Ya
156	Ya	Ya	Ya	1	0	0	1	0	0	1	0	26 - 50%	Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
157	Tidak	Tidak	Ya	0	0	1	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
158	Tidak	Tidak	Tidak	0	0	1	1	1	1	0	1		Tidak	Ya	> 30%	Tidak	> 20%	Tidak	Ya
159	Ya	Tidak	Tidak	0	1	1	1	1	0	0	0	26 - 50%	Tidak	Tidak	1 - 10%	Ya	11 - 20%	Ya	Ya
160	Ya	Tidak	Tidak	0	1	1	0	0	1	1	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	1- 5%	Ya	Ya
161	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
162	Tidak	Tidak	Ya	0	0	0	1	1	0	0	1		Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Tidak
163	Ya	Ya	Ya	0	1	1	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
164	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Ya	21 - 30%	Tidak	> 20%	Tidak	Ya
165	Tidak	Tidak	Tidak	0	0	1	0	1	0	0	1		Tidak	Ya	> 30%	Tidak	> 20%	Tidak	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
166	Tidak	Tidak	Tidak	0	1	1	0	0	1	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
167	Tidak	Ya	Ya	0	0	1	1	1	1	0	0		Ya		> 30%	Tidak	> 20%	Tidak	Tidak
168	Ya	Ya	Ya	0	0	1	0	1	0	0	1		Tidak	Tidak	21 - 30%	Ya	1- 5%	Ya	Ya
169	Ya	Tidak	Tidak	0	0	1	1	1	0	1	0	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
170	Tidak	Tidak	Ya	0	0	1	0	1	0	0	1		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
171	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	1 - 25%	Tidak	Ya	> 30%	Tidak	> 20%	Tidak	Ya
172	Ya	Tidak	Ya	0	0	1	0	1	0	0	1		Tidak	Ya	> 30%	Ya	6 - 10%	Ya	Ya
173	Ya	Ya	Ya	0	1	1	0	1	0	0	0	26 - 50%	Tidak	Ya	11 - 20%	Ya	11 - 20%	Ya	Ya
174	Ya	Tidak	Ya	0	0	0	1	1	0	0	1	1 - 25%	Tidak	Ya	> 30%	Ya	> 20%	Tidak	Ya
175	Tidak	Tidak	Tidak	0	1	0	1	1	0	0	1	26 - 50%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Ya
176	Ya	Tidak	Ya	0	1	0	1	1	0	0	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Ya
177	Ya	Tidak	Ya	0	0	1	1	1	1	0	1		Tidak		> 30%	Tidak	> 20%	Ya	Ya
178	Ya	Tidak	Ya	0	1	0	1	1	0	0	1	51 - 75%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Ya
179	Tidak	Tidak	Tidak	0	1	1	1	0	0	1	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Ya
180	Tidak	Tidak	Ya	1	0	1	1	1	0	0	1	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
181	Ya	Tidak	Tidak	0	0	1	1	1	1	0	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Tidak
182	Ya	Tidak	Tidak	1	1	1	1	0	0	0	1	51 - 75%	Tidak	Ya	> 30%	Ya	11 - 20%	Tidak	Ya
183	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
184	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
185	Tidak	Tidak	Ya	1	0	1	0	1	1	0	1	76 - 100 %	Tidak	Ya	> 30%	Ya	> 20%	Tidak	Ya
186	Tidak	Tidak	Ya	0	0	1	0	1	1	0	1	76 - 100 %	Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
187	Tidak	Tidak	Ya	1	1	1	0	1	0	0	1	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
188	Tidak	Tidak	Ya	0	0	1	1	1	1	0	1		Tidak	Ya	> 30%	Tidak	> 20%	Tidak	Ya
189	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak		> 30%	Tidak	> 20%	Tidak	Ya
190	Tidak	Tidak	Tidak	1	1	1	0	1	0	0	1	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
191	Tidak	Tidak	Ya	1	0	1	1	1	0	0	1	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Ya	Ya
192	Tidak	Tidak	Tidak	1	0	1	1	1	0	0	1	76 - 100 %	Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Tidak
193	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
194	Ya	Ya	Ya	0	1	1	0	1	1	0	1		Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
195	Tidak	Tidak	Ya	1	0	1	1	1	0	0	1	76 - 100 %	Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Tidak
196	Ya	Tidak	Ya	0	1	1	1	0	0	1	0	26 - 50%	Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Ya
197	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
198	Tidak	Tidak	Tidak	1	0	1	0	1	0	1	1	76 - 100 %	Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Ya
199	Ya	Tidak	Ya	0	0	0	1	1	0	0	1		Tidak	Tidak	11 - 20%	Tidak	1- 5%	Tidak	Tidak
200	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Ya	Tidak
201	Tidak	Tidak	Ya	0	0	0	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
202	Tidak	Tidak	Ya	0	0	1	1	0	0	0	1		Tidak	Ya	> 30%	Ya	> 20%	Tidak	Ya
203	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
204	Ya	Ya	Ya	0	1	0	1	0	0	1	0		Tidak	Tidak	11 - 20%	Ya	11 - 20%	Ya	Ya
205	Tidak	Tidak	Ya	0	0	1	1	1	0	0	1		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
206	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
207	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya

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208	Tidak	Tidak	Ya	0	0	1	0	1	0	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
209	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Ya	Tidak
210	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
211	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
212	Tidak	Tidak	Ya	0	0	1	1	1	1	0	1		Tidak	Ya	> 30%	Tidak	> 20%	Tidak	Ya
213	Tidak	Tidak	Ya	0	1	1	1	1	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Ya	Ya
214	Ya	Tidak	Ya	0	0	0	0	1	1	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
215	Tidak	Tidak	Ya	0	0	1	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
216	Tidak	Tidak	Ya	0	0	1	0	1	0	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
217	Tidak	Tidak	Tidak	1	0	1	1	1	0	0	1	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
218	Ya	Tidak	Ya	0	1	1	1	1	0	0	0		Tidak	Ya	> 30%	Tidak	> 20%	Tidak	Tidak
219	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
220	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
221	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
222	Tidak	Ya	Ya	1	0	1	0	1	1	0	1	76 - 100 %	Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Ya
223	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
224	Tidak	Tidak	Ya	1	0	0	1	1	1	0	1		Tidak	Tidak	21 - 30%	Tidak	> 20%	Tidak	Ya
225	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
226	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
227	Ya	Ya	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Ya	Tidak
228	Tidak	Ya	Ya	1	0	0	1	1	0	1	1		Tidak	Ya	11 - 20%	Tidak	6 - 10%	Ya	Tidak
229	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Ya	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
230	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
231	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	21 - 30%	Ya	> 20%	Tidak	Tidak
232	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
233	Tidak	Tidak	Ya	1	0	1	1	1	0	0	1		Tidak	Ya	11 - 20%	Tidak	6 - 10%	Tidak	Ya
234	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
235	Tidak	Tidak	Ya	1	0	0	1	1	0	1	1		Tidak	Ya	21 - 30%	Tidak	6 - 10%	Tidak	Tidak
236	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
237	Tidak	Tidak	Ya	0	0	1	1	1	0	1	1		Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
238	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
239	Ya	Tidak	Ya	0	0	1	1	1	0	0	0		Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
240	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
241	Tidak	Tidak	Ya	0	0	1	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
242	Tidak	Tidak	Ya	0	0	1	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Ya	Ya
243	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
244	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
245	Ya	Tidak	Ya	1	0	1	1	1	0	0	1		Tidak	Tidak	> 30%	Ya	11 - 20%	Ya	Tidak
246	Ya	Tidak	Tidak	0	0	1	0	1	0	0	1		Ya	Ya	> 30%	Ya	1- 5%	Ya	Ya
247	Ya	Tidak	Ya	0	0	1	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
248	Ya	Tidak	Ya	0	0	1	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
249	Tidak	Ya	Ya	1	0	1	1	1	0	1	0		Tidak	Tidak	1 - 10%	Tidak	1- 5%	Tidak	Ya
250	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Ya	21 - 30%	Ya	6 - 10%	Ya	Ya
251	Ya	Tidak	Ya	0	1	1	0	1	0	0	1		Tidak	Ya	> 30%	Tidak	> 20%	Tidak	Tidak
252	Ya	Tidak	Ya	0	0	1	0	1	0	0	1		Tidak	Tidak	> 30%	Ya	6 - 10%	Ya	Ya
253	Tidak	Ya	Ya	1	1	1	1	1	0	0	0		Tidak	Ya	1 - 10%	Tidak	> 20%	Tidak	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
254	Tidak	Tidak	Ya	1	1	1	1	1	0	0	0		Tidak	Ya	> 30%	Tidak	11 - 20%	Ya	Ya
255	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
256	Ya	Tidak	Ya	1	1	0	1	1	0	1	0		Tidak	Tidak	1 - 10%	Tidak	1- 5%	Ya	Ya
257	Ya	Tidak	Ya	0	1	0	1	1	0	1	1		Tidak	Ya	21 - 30%	Tidak	> 20%	Tidak	Ya
258	Ya	Ya	Ya	0	1	0	1	0	0	1	0		Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
259	Tidak	Tidak	Tidak	0	0	1	1	1	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
260	Tidak	Tidak	Tidak	0	0	1	0	1	1	0	0		Ya		21 - 30%	Tidak	> 20%	Tidak	Ya
261	Ya	Ya	Tidak	0	1	1	1	1	1	0	0		Tidak	Ya	> 30%	Ya	> 20%	Tidak	Tidak
262	Tidak	Tidak	Tidak	0	0	0	1	1	1	0	0		Tidak	Tidak	21 - 30%	Tidak	11 - 20%	Tidak	Tidak
263	Tidak	Tidak	Tidak	0	1	1	0	1	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
264	Ya	Tidak	Tidak	1	1	1	1	1	0	0	0	1 - 25%	Tidak	Tidak	1 - 10%	Ya	1- 5%	Tidak	Ya
265	Tidak	Tidak	Tidak	1	1	1	0	1	0	1	0	26 - 50%	Tidak	Tidak	1 - 10%	Ya	1- 5%	Ya	Tidak
266	Ya	Tidak	Tidak	0	1	1	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	11 - 20%	Tidak	Ya
267	Tidak	Tidak	Tidak	0	1	1	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
268	Ya	Ya	Ya	0	0	0	1	1	1	0	0		Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
269	Ya	Tidak	Tidak	0	1	1	1	1	0	0	1		Tidak	Ya	21 - 30%	Tidak	1- 5%	Ya	Ya
270	Ya	Tidak	Ya	0	1	1	1	1	0	1	0		Tidak	Tidak	11 - 20%	Tidak	> 20%	Ya	Ya
271	Tidak	Tidak	Tidak	0	1	1	1	1	0	0	1		Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
272	Ya	Tidak	Ya	0	0	1	1	1	0	0	0		Tidak	Tidak	> 30%	Ya	1- 5%	Ya	Ya
273	Tidak	Tidak	Ya	0	0	1	1	1	1	0	1		Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
274	Tidak	Tidak	Tidak	0	0	1	1	1	0	0	0		Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
275	Tidak	Tidak	Tidak	0	0	1	1	1	1	0	1		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
276	Ya	Tidak	Ya	0	0	1	1	1	0	1	1		Tidak	Ya	> 30%	Ya	6 - 10%	Ya	Ya
277	Ya	Tidak	Ya	0	1	0	1	1	0	0	0		Tidak	Tidak	> 30%	Ya	11 - 20%	Tidak	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
278	Ya	Tidak	Ya	0	0	1	1	1	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Ya
279	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	1 - 10%	Tidak	1- 5%	Tidak	Ya
280	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	1 - 10%	Tidak	1- 5%	Ya	Tidak
281	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
282	Tidak	Ya	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Tidak
283	Ya	Tidak	Ya	0	0	1	1	1	0	0	0		Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
284	Tidak	Tidak	Ya	1	0	1	1	0	0	0	0		Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Ya
285	Ya	Ya	Tidak	0	1	1	1	0	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
286	Ya	Tidak	Ya	0	0	1	0	1	0	0	1		Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
287	Tidak	Tidak	Tidak	0	1	1	0	1	0	0	0		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
288	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Ya	Ya	> 30%	Ya	1- 5%	Ya	Ya
289	Ya	Ya	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Ya
290	Ya	Tidak	Ya	0	1	1	1	0	0	0	0		Tidak	Tidak	> 30%	Ya	6 - 10%	Ya	Ya
291	Ya	Tidak	Tidak	0	0	1	0	1	1	0	0		Tidak	Tidak	> 30%	Tidak	6 - 10%	Tidak	Ya
292	Tidak	Tidak	Ya	0	1	0	1	0	0	1	0		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Tidak
293	Ya	Tidak	Ya	0	1	0	1	0	0	1	0		Tidak	Ya	> 30%	Ya	1- 5%	Ya	Ya
294	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
295	Ya	Ya	Ya	0	1	0	1	0	0	1	0		Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
296	Ya	Tidak	Ya	0	0	1	1	1	0	0	0		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
297	Ya	Tidak	Ya	0	0	1	1	1	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Ya
298	Ya	Tidak	Ya	0	0	1	1	1	0	0	0		Tidak	Tidak	11 - 20%	Ya	11 - 20%	Ya	Ya
299	Ya	Tidak	Tidak	0	0	1	1	1	0	0	0		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
300	Ya	Tidak	Tidak	0	0	1	1	0	0	0	1		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
301	Tidak	Ya	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
302	Ya	Tidak	Ya	0	0	1	1	1	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
303	Ya	Tidak	Ya	0	0	1	1	1	0	0	0		Tidak		11 - 20%	Ya	6 - 10%	Ya	Ya
304	Ya	Tidak	Ya	0	0	1	1	1	0	0	0		Tidak	Tidak	> 30%	Ya	11 - 20%	Ya	Ya
305	Ya	Tidak	Ya	0	1	1	1	0	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Tidak
306	Ya	Tidak	Tidak	0	0	1	0	0	1	1	0		Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Tidak
307	Ya	Tidak	Ya	0	0	1	0	1	0	1	0		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
308	Ya	Tidak	Ya	0	0	1	1	1	0	0	0		Tidak	Tidak	> 30%	Ya	6 - 10%	Tidak	Ya
309	Ya	Tidak	Tidak	0	0	1	1	1	0	0	0		Tidak		> 30%	Tidak	1- 5%	Tidak	Ya
310	Ya	Tidak	Tidak	1	0	1	1	0	0	0	0		Tidak	Tidak	> 30%	Ya	11 - 20%	Ya	Ya
311	Ya	Tidak	Tidak	0	1	1	1	0	0	0	0		Tidak		> 30%	Ya	> 20%	Ya	Ya
312	Tidak	Tidak	Tidak	0	1	1	0	1	0	0	0		Tidak	Tidak	> 30%	Tidak	11 - 20%	Tidak	Tidak
313	Ya	Tidak	Ya	1	0	1	0	1	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Tidak
314	Ya	Tidak	Ya	0	0	1	1	1	0	0	0		Tidak	Ya	11 - 20%	Ya	11 - 20%	Ya	Ya
315	Ya	Tidak	Ya	0	1	1	0	0	0	1	0		Tidak	Tidak	> 30%	Ya	6 - 10%	Ya	Ya
316	Ya	Tidak	Tidak	0	1	1	1	0	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Tidak
317	Ya	Tidak	Tidak	1	1	0	0	1	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
318	Ya	Tidak	Tidak	0	0	1	1	0	1	0	0		Tidak	Tidak	> 30%	Ya	6 - 10%	Ya	Ya
319	Ya	Tidak	Ya	0	0	1	0	1	0	1	0		Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Ya
320	Ya	Tidak	Ya	1	1	1	0	0	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
321	Ya	Tidak	Ya	0	1	1	0	1	0	0	0		Tidak	Ya	> 30%	Ya	11 - 20%	Ya	Ya
322	Ya	Tidak	Tidak	0	1	1	0	1	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
323	Ya	Tidak	Ya	0	1	0	0	1	0	1	1	26 - 50%	Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Ya
324	Ya	Tidak	Tidak	0	1	0	0	1	0	1	0		Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Tidak
325	Ya	Ya	Ya	1	0	0	1	1	0	1	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
326	Ya	Tidak	Ya	0	1	1	1	1	0	0	1		Tidak	Ya	11 - 20%	Tidak	> 20%	Tidak	Ya
327	Ya	Ya	Ya	0	1	1	1	1	0	0	0	26 - 50%	Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Ya
328	Ya	Tidak	Ya	0	1	0	1	1	0	0	1	26 - 50%	Tidak	Tidak	21 - 30%	Ya	6 - 10%	Ya	Ya
329	Ya	Ya	Ya	0	1	0	1	1	1	0	1		Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
330	Ya	Tidak	Ya	0	1	1	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
331	Ya	Tidak	Ya	1	1	1	1	0	0	0	0	26 - 50%	Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Ya
332	Ya	Ya	Ya	0	0	1	1	1	0	1	0	26 - 50%	Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Ya
333	Ya	Tidak	Ya	0	1	1	1	0	0	1	1		Tidak	Tidak	> 30%	Tidak	11 - 20%	Tidak	Ya
334	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
335	Ya	Ya	Ya	1	1	0	1	0	1	0	1		Tidak	Tidak	> 30%	Ya	> 20%	Tidak	Tidak
336	Ya	Ya	Ya	0	1	1	1	1	0	0	1	51 - 75%	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
337	Tidak	Tidak	Ya	1	1	1	1	1	0	0	0	51 - 75%	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
338	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
339	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
340	Tidak	Ya	Ya	0	1	1	1	0	0	1	1		Tidak	Tidak	1 - 10%	Tidak	1- 5%	Tidak	Tidak
341	Ya	Ya	Ya	0	1	1	1	0	0	1	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
342	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Tidak
343	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak		> 30%	Ya	> 20%	Tidak	Ya
344	Ya	Ya	Tidak	0	0	0	0	0	0	0	0		Tidak		> 30%	Ya	> 20%	Tidak	Ya
345	Ya	Ya	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Ya	Tidak
346	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
347	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	21 - 30%	Tidak	> 20%	Tidak	Ya
348	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
349	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
350	Ya	Tidak	Ya	0	1	1	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	11 - 20%	Tidak	Ya
351	Ya	Tidak	Ya	0	1	1	1	1	0	0	1		Tidak	Tidak	> 30%	Ya	11 - 20%	Tidak	Tidak
352	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
353	Ya	Tidak	Ya	0	1	1	1	1	0	0	1		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
354	Tidak	Tidak	Ya	0	1	1	1	1	0	0	1		Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
355	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	6 - 10%	Tidak	Tidak
356	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
357	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
358	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
359	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
360	Ya	Ya	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
361	Ya	Ya	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
362	Ya	Ya	Ya	0	1	1	1	0	1	0	1		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Tidak
363	Ya	Ya	Tidak	0	1	1	1	1	0	0	1		Tidak	Tidak	21 - 30%	Tidak	> 20%	Tidak	Tidak
364	Ya	Ya	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
365	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
366	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Ya	Ya
367	Ya	Ya	Ya	0	1	1	1	0	0	1	1		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Tidak
368	Tidak	Tidak	Ya	0	1	1	1	1	0	0	1		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
369	Ya	Tidak	Tidak	0	1	0	1	1	0	0	1	26 - 50%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Ya
370	Ya	Ya	Ya	0	1	1	1	1	0	1	0		Tidak	Tidak	> 30%	Ya	1- 5%	Tidak	Ya
371	Tidak	Tidak	Tidak	1	0	1	0	1	1	0	1	26 - 50%	Tidak	Tidak	11 - 20%	Tidak	11 - 20%	Tidak	Tidak
372	Ya	Tidak	Ya	0	0	1	1	1	0	1	1		Tidak	Ya	21 - 30%	Ya	1- 5%	Tidak	Ya
373	Ya	Ya	Ya	0	0	1	1	1	1	0	1		Tidak	Ya	21 - 30%	Tidak	> 20%	Ya	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
374	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Tidak
375	Tidak	Tidak	Ya	0	0	1	1	1	0	1	1	26 - 50%	Tidak	Ya	> 30%	Tidak	11 - 20%	Ya	Ya
376	Ya	Ya	Ya	0	1	0	1	1	1	0	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	11 - 20%	Ya	Ya
377	Ya	Tidak	Ya	0	0	1	0	1	1	1	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Ya
378	Ya	Tidak	Tidak	0	0	1	1	1	0	1	0	26 - 50%	Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Ya
379	Ya	Tidak	Ya	0	1	1	1	1	0	0	0	26 - 50%	Tidak	Tidak	11 - 20%	Ya	6 - 10%	Ya	Ya
380	Ya	Tidak	Tidak	1	0	1	1	0	1	0	0	26 - 50%	Tidak	Tidak	11 - 20%	Tidak	6 - 10%	Ya	Ya
381	Ya	Tidak	Tidak	0	0	1	1	1	0	1	0	26 - 50%	Tidak	Tidak	21 - 30%	Ya	11 - 20%	Ya	Ya
382	Ya	Tidak	Tidak	0	0	1	1	1	0	1	1	1 - 25%	Tidak	Ya	> 30%	Ya	11 - 20%	Tidak	Tidak
383	Ya	Tidak	Ya	1	0	1	1	1	0	1	0	51 - 75%	Tidak	Ya	> 30%	Tidak	11 - 20%	Tidak	Ya
384	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Ya	21 - 30%	Tidak	1- 5%	Tidak	Ya
385	Ya	Tidak	Tidak	0	0	1	0	1	1	1	1		Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
386	Ya	Tidak	Ya	0	1	1	0	1	0	0	1		Tidak	Ya	> 30%	Tidak	6 - 10%	Tidak	Ya
387	Ya	Tidak	Tidak	0	1	1	1	0	0	1	1		Tidak	Ya	> 30%	Ya	> 20%	Tidak	Ya
388	Ya	Ya	Ya	0	0	1	1	1	0	1	1		Tidak	Tidak	1 - 10%	Ya	6 - 10%	Tidak	Tidak
389	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Ya	> 30%	Tidak	> 20%	Tidak	Ya
390	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Ya	> 30%	Tidak	1- 5%	Ya	Tidak
391	Tidak	Tidak	Ya	1	1	0	1	1	0	0	1		Tidak	Tidak	1 - 10%	Ya	> 20%	Tidak	Ya
392	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	11 - 20%	Tidak	> 20%	Tidak	Tidak
393	Tidak	Tidak	Ya	0	1	0	1	1	0	1	1		Tidak	Ya	1 - 10%	Tidak	6 - 10%	Ya	Ya
394	Tidak	Tidak	Ya	1	0	0	1	1	0	1	1		Tidak	Tidak	1 - 10%	Tidak	> 20%	Tidak	Tidak
395	Tidak	Tidak	Ya	0	1	1	1	1	0	0	1		Tidak	Ya	> 30%	Ya	> 20%	Tidak	Ya
396	Ya	Tidak	Tidak	1	0	1	1	1	0	0	1		Tidak	Tidak	1 - 10%	Tidak	> 20%	Tidak	Tidak
397	Ya	Tidak	Ya	1	1	1	1	0	0	1	0		Tidak	Ya	1 - 10%	Tidak	1- 5%	Tidak	Ya

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
398	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	1 - 10%	Tidak	1- 5%	Tidak	Tidak
399	Tidak	Tidak	Ya	1	1	0	1	0	1	1	0	76 - 100 %	Tidak	Tidak	> 30%	Tidak	> 20%	Tidak	Ya
400	Tidak	Tidak	Ya	0	0	1	1	1	1	0	1		Tidak	Tidak	1 - 10%	Tidak	1- 5%	Tidak	Ya
401	Tidak	Tidak	Ya	0	0	1	1	1	0	1	1		Tidak	Ya	> 30%	Ya	> 20%	Tidak	Ya
402	Ya	Ya	Ya	0	0	0	1	1	1	0	0	26 - 50%	Tidak	Ya	21 - 30%	Ya	> 20%	Ya	Ya
403	Tidak	Tidak	Ya	0	1	0	1	1	0	1	1		Tidak	Ya	11 - 20%	Ya	1- 5%	Tidak	Ya
404	Ya	Tidak	Tidak	0	0	0	1	1	1	1	1		Tidak	Tidak	11 - 20%	Tidak	1- 5%	Tidak	Tidak
405	Ya	Tidak	Ya	0	1	1	1	1	0	0	1		Tidak	Ya	11 - 20%	Ya	1- 5%	Ya	Ya
406	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0	1 - 25%	Tidak	Tidak	1 - 10%	Ya	1- 5%	Ya	Tidak
407	Ya	Ya	Ya	0	1	1	1	1	0	0	1		Tidak	Ya	> 30%	Ya	11 - 20%	Tidak	Ya
408	Tidak	Tidak	Ya	0	0	0	1	1	1	1	1		Tidak	Ya	11 - 20%	Ya	> 20%	Tidak	Ya
409	Ya	Tidak	Ya	1	1	1	1	0	1	0	0	76 - 100 %	Tidak	Ya	11 - 20%	Tidak	6 - 10%	Ya	Ya
410	Ya	Ya	Ya	0	1	1	1	0	0	1	1		Tidak	Ya	> 30%	Ya	6 - 10%	Ya	Ya
411	Tidak	Tidak	Ya	0	1	1	1	1	1	0	0		Tidak	Ya	11 - 20%	Tidak	6 - 10%	Tidak	Ya
412	Ya	Tidak	Ya	1	1	1	1	0	0	1	0	1 - 25%	Tidak	Tidak	1 - 10%	Ya	1- 5%	Ya	Ya
413	Tidak	Tidak	Ya	1	0	1	1	1	0	1	0	76 - 100 %	Tidak	Tidak	> 30%	Tidak	1- 5%	Ya	Ya
414	Ya	Tidak	Ya	1	1	1	1	0	0	1	0		Tidak	Ya	> 30%	Ya	> 20%	Ya	Ya
415	Ya	Ya	Ya	1	1	1	1	0	1	0	0	51 - 75%	Tidak	Ya	11 - 20%	Ya	6 - 10%	Ya	Ya
416	Ya	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
417	Ya	Tidak	Tidak	1	1	1	0	1	0	1	0	1 - 25%	Tidak	Ya	1 - 10%	Tidak	6 - 10%	Ya	Ya
418	Ya	Tidak	Ya	1	1	0	1	0	0	1	1	26 - 50%	Tidak	Ya	21 - 30%	Ya	1- 5%	Ya	Ya
419	Tidak	Ya	Ya	0	1	1	1	0	0	1	0		Tidak	Tidak	21 - 30%	Ya	11 - 20%	Tidak	Tidak

~~No Kuesioner~~	~~Apakah Anda tahu mengenai problematika krisis air bersih?~~	Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter?	Apakah Anda bersedia untuk menggunakan peralatan saniter di rumah dengan Eco Saniter?	Banyak orang menggunakan eco saniter	Peralatan eco saniter mudah didapatkan	Harga peralatan eco saniter terjangkau oleh masyarakat	Pemasangan eco saniter memberikan dampak yang signifikan terhadap penghematan air	Pembelian eco saniter mungkin mendapatkan subsidi dari pemerintah	Peningkatan tarif air bersih oleh PDAM	Informasi mengenai pentingnya eco saniter mudah didapatkan	Bebas biaya instalasi pemasangan eco saniter dari perusahaan ybs	D-5	Apakah di rumah Anda terdapat tangki penyimpanan air hujan (rainwater tank) ?	D-12	D-13	Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya	Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan rain water tank?	Apakah Anda setuju dengan adanya kenaikan tarif air bersih	Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan rainwater tank di rumah?
420	Ya	Tidak	Ya	0	0	1	1	1	0	1	1		Tidak	Ya	> 30%	Ya	6 - 10%	Tidak	Ya
421	Ya	Tidak	Tidak	0	0	1	1	1	1	0	0		Tidak	Ya	11 - 20%	Tidak	1- 5%	Ya	Ya
422	Ya	Ya	Ya	1	1	1	1	0	1	0	0	51 - 75%	Tidak	Tidak	11 - 20%	Tidak	> 20%	Ya	Tidak
423	Ya	Ya	Ya	0	0	1	1	1	1	0	1		Tidak	Ya	> 30%	Tidak	1- 5%	Tidak	Ya
424	Ya	Ya	Ya	0	0	1	1	1	1	0	1		Tidak	Ya	21 - 30%	Ya	> 20%	Ya	Tidak
425	Ya	Tidak	Ya	0	0	1	1	1	1	0	1		Tidak	Ya	21 - 30%	Ya	1- 5%	Tidak	Tidak
426	Ya	Tidak	Tidak	0	0	0	0	1	0	0	1	1 - 25%	Tidak	Ya	> 30%	Ya	> 20%	Tidak	Ya
427	Ya	Ya	Ya	1	1	1	1	1	0	0	0		Tidak	Ya	21 - 30%	Ya	1- 5%	Tidak	Ya
428	Ya	Tidak	Ya	0	1	0	1	1	1	1	0		Tidak	Ya	21 - 30%	Tidak	1- 5%	Tidak	Tidak
429	Tidak	Tidak	Tidak	0	1	1	1	1	0	0	1		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Tidak
430	Tidak	Tidak	Ya	0	0	0	1	1	0	1	1		Tidak	Tidak	> 30%	Ya	> 20%	Ya	Ya
431	Tidak	Tidak	Tidak	0	0	0	0	0	0	0	0		Tidak	Tidak	> 30%	Ya	11 - 20%	Tidak	Tidak
432	Ya	Tidak	Tidak	0	0	1	1	1	0	1	1		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
433	Ya	Tidak	Tidak	0	0	1	1	1	0	1	1		Tidak	Tidak	> 30%	Tidak	1- 5%	Tidak	Ya
434	Tidak	Tidak	Ya	0	0	1	1	1	1	0	1		Tidak	Tidak	Tidak	1- 5%	Tidak	Ya	66
435	Tidak	Tidak	Tidak	0	1	1	1	1	0	0	1		Tidak	Tidak	Ya	1- 5%	Tidak	Ya	26-28
436	Ya	Tidak	Tidak	0	0	1	1	1	0	1	1		Tidak	Ya	Ya	1- 5%	Ya	Ya	45
437	Tidak	Tidak	Tidak	1	0	1	1	1	0	0	1	1 - 25%	Tidak	Tidak	Tidak	1- 5%	Tidak	Ya	40-45
438	Ya	Tidak	Ya	0	1	1	1	1	0	0	1		Tidak	Tidak	Tidak	1- 5%	Ya	Ya	6
439	Ya	Tidak	Tidak	0	0	1	1	1	0	1	1		Tidak	Tidak	Ya	6 - 10%	Ya	Tidak	12
440	Ya	Tidak	Ya	0	1	1	1	1	1	0	0		Tidak	Tidak	Tidak	1- 5%	Tidak	Tidak	30-50

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APPENDIX 2

(Sampling Determination)

No.	District	Sub-District	Sampling Total	Sampling
1	Tegalsari	Dr. Sutomo	14	3
		Kedungdoro		3
		Keputran		3
		Tegalsari		3
		Wonorejo		2
2	Genteng	Embong Kaliasin	9	2
		Genteng		2
		Kapasari		2
		Ketabang		2
		Peneleh		1
3	Bubutan	Jepara	14	3
		Gundih		3
		Tembok Dukuh		3
		Alon Alon Contong		3
		Bubutan		2
4	Simokerto	Kapasan	14	3
		Sidodadi		3
		Simokerto		3
		Simolawang		3
		Tambakrejo		2
5	Pabean Cantian	Bongkaran	12	3
		Krembangan Utara		3
		Nyamplungan		2
		Perak Timur		2
		Perak Utara		2
6	Semampir	Ampel	25	5
		Pegirian		5
		Sidotopo		5
		Ujung		5
		Wonokusumo		5
7	Krembangan	Dupak	16	4
		Kemayoran		3
		Krembangan Selatan		3
		Morokrembangan		3
		Perak Barat		3

No.	District	Sub-District	Sampling Total	Sampling
8	Kenjeran	Bulak Banteng	21	6
		Sidotopo Wetan		5
		Tambak Wedi		5
		Tanah Kali Kedinding		5
9	Bulak	Bulak	6	2
		Kedung Cowek		2
		Kenjeran		1
		Sukolilo Baru		1
10	Tambak Sari	Dukuh Setro	30	4
		Gading		4
		Kapasmadya Baru		4
		Pacar Keling		4
		Pacar Kembang		4
		Ploso		4
		Rangkah		3
		Tambaksari		3
11	Gubeng	Airlangga	19	4
		Baratajaya		3
		Gubeng		3
		Kertajaya		3
		Mojo		3
		Pucang Sewu		3
12	Rungkut	Kalirungkut	15	3
		Kedung Baruk		3
		Medokan Ayu		3
		Penjaringan Sari		2
		Rungkut Kidul		2
		Wonorejo		2
13	Tenggilis Mejoyo	Kendangsari	8	2
		Kutisari		2
		Panjang Jiwo		2
		Tenggilis Mejoyo		2
14	Gunung Anyar	Gunung Anyar	8	2
		Gunung Anyar Tambak		2
		Rungkut Menanggal		2
		Rungkut Tengah		2
15	Sukolilo	Gebang Putih	15	3
		Keputih		2

No.	District	Sub-District	Sampling Total	Sampling
		Klampis Ngasem		2
		Medokan Semampir		2
		Menur Pumpungan		2
		Nginden Jangkungan		2
		Semolowaru		2
16	Mulyorejo	Dukuh Sutorejo	12	2
		Kalijudan		2
		Kalisari		2
		Kejawan Putih Tambak		2
		Manyar Sabrangan		2
		Mulyorejo		2
17	Sawahan	Banyu Urip	28	5
		Kupang Krajan		5
		Pakis		5
		Petemon		5
		Putat Jaya		4
		Sawahan		4
18	Wonokromo	Darmo	22	4
		Jagir		4
		Ngagel		4
		Ngagelrejo		4
		Sawunggaling		3
		Wonokromo		3
19	Karang Pilang	Karangpilang	10	3
		Kebraon		3
		Kedurus		2
		Warugunung		2
20	Dukuh Pakis	Dukuh Kupang	8	2
		Dukuh Kupang		2
		Gunung Sari		2
		Pradahkalikendal		2
21	Wiyung	Babatan	9	3
		Balas Klumprik		2
		Jajartunggal		2
		Wiyung		2
22	Wonocolo	Bendul Merisi	11	3
		Jemur Wonosari		2
		Margorejo		2

No.	District	Sub-District	Sampling Total	Sampling
		Sidosermo		2
		Siwalankerto		2
23	Gayungan	Dukuh Menanggal	7	2
		Gayungan		2
		Ketintang		2
		Menanggal		1
24	Jambangan	Jambangan	7	2
		Karah		2
		Kebonsari		2
		Pagesangan		1
25	Tandes	Balongsari	13	3
		Banjar Sugihan		2
		Karangpoh		2
		Manukan Kulon		2
		Manukan Wetan		2
		Tandes		2
26	Sukomanunggal	Putat Gede	14	3
		Simomulyo		3
		Simomulyo Baru		2
		Sono Kwijenan		2
		Suko Manunggal		2
		Tanjungsari		2
27	Asemrowo	Asemrowo	6	2
		Genting		1
		Greges		1
		Kalianak		1
		Tambak		1
28	Benowo	Tambakoso	8	2
		Romokalisari		2
		Klakah Rejo		2
		Sememi		1
		Kandangan		1
29	Pakal	Babat Jerawat	7	2
		Benowo		2
		Pakal		2
		Sumber Rejo		1
30	Lakar Santri	Bangkingan	8	2
		Jeruk		2

No.	District	Sub-District	Sampling Total	Sampling
		Lakarsantri		1
		Lidah Kulon		1
		Lidah Wetan		1
		Sumur Welut		1
31	Sambi Kerep	Bringin	9	3
		Lontar		2
		Made		2
		Sambikerep		2
Total			**405**	**405**

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APPENDIX 3

(Questionaire Design)

Surveyor:
No. Kuisioner:

KUISIONER SURVEY
PENGGUNAAN AIR BERSIH WARGA KOTA SURABAYA

A. DEMOGRAFI DAN INFORMASI PENGGUNA

Kecamatan: Kelurahan: RT/RW:

1. Jenis kelamin: (L/P)
2. Berapakah usia Anda?_____tahun
3. Apakah agama Anda? (Islam/Kristen/Katholik/Budha/Hindu)
4. Apakah pendidikan terakhir Anda? (SD/SMP/SMA/Diploma/Sarjana)
5. Apakah pekerjaan anda?
   a. PNS/Kary Swasta/ABRI/Polisi
   b. Wiraswasta
   c. Mahasiswa
   d. Profesional
   e. Dan lain-lain (.....)
6. Berapakah pendapatan keluarga Anda per bulan?
   a. ≤ Rp. 1.000.000
   b. Rp. 1.000.000 – Rp. 3.000.000
   c. Rp. 3.000.000 – Rp. 5.000.000
   d. Rp 5.000.000 – Rp 10.000.000
   e. Rp 10.000.000 – Rp 15.000.000
   f. Rp 15.000.000 – Rp 25.000.000
   g. > Rp 25.000.000
7. Berapakah pengeluaran keluarga Anda per bulan?
   a. ≤ Rp. 1.000.000
   b. Rp. 1.000.000 – Rp. 3.000.000
   c. Rp. 3.000.000 – Rp. 5.000.000
   d. ≥ Rp 5.000.000
8. Apakah Anda memiliki anak usia balita? (Ya/Tidak), _____orang
9. Berapakah jumlah orang yang tinggal dengan Anda dalam satu rumah?
   a. 1 orang (tinggal sendiri)
   b. _____orang
10. Apakah jenis rumah yang keluarga Anda tinggali?
    a. Milik pribadi
    b. Rumah dinas
    c. Kontrak
    d. Kos keluarga
11. Apakah lingkungan rumah keluarga Anda?
    a. Apartement
    b. Rumah susun
    c. Kampung
    d. Perumahan
    e. Rumah dinas

B. PENGGUNAAN AIR MINUM DAN PENYEDIAAN AIR BERSIH

1. Apakah jenis air minum yang keluarga Anda konsumsi setiap hari?
   - ☐ Air PDAM yang direbus
   - ☐ Air sumur yang direbus
   - ☐ Air mineral bermerek_____
   - ☐ Air isi ulang
   - ☐ Air suling (contoh: *Pure it*)
2. Alasan pemilihan jenis air minum
   _____
3. Apabila PDAM meningkatkan kualitas air bersih yang diolah, apakah Anda bersedia untuk mengonsumsi air tersebut?
   a. Bersedia
   b. Tidak Bersedia
4. Apa jenis sumber air bersih yang keluarga Anda gunakan untuk keperluan sehari-hari?
   - ☐ PAM
   - ☐ Sumur gali/pompa (milik pribadi)
   - ☐ Sumur komunal
   - ☐ Sumur bor
   - ☐ Air sungai
   - ☐ Air sumber (tangki/gledekan)
5. Berapa jumlah pemakaian air PDAM perbulan?
   a. < 10 m^3/KK/ Bulan
   b. 10-30 m^3/KK/ Bulan
   c. 30-50 m^3/KK/ Bulan
   d. > 50 m^3/KK/ Bulan
6. Berapa pengeluaran air rata-rata yang Anda bayar setiap bulannya?
   a. Rp. 30.000- Rp. 50.000
   b. Rp. 50.000- Rp. 75.000
   c. Rp. 75.000- Rp. 100.000
   d. > Rp. 100.000
7. Apakah di rumah Anda terdapat tandon air? (Ada/Tidak)
8. Jika Ada, apakah jenis tandon air di rumah Anda? (Tandon Atas/Tandon Bawah/Keduanya)
   Alasan: _____
9. Berapakah kapasitas tandon di rumah Anda? _____m^3
10. Apakah Anda menggunakan pompa air dalam membantu pengaliran air PDAM atau pengaliran air ke Tandon di rumah Anda? (Ya/Tidak)
11. Jika Ya, apakah jenis pompa air yang Anda gunakan? (Otomatis Mati/Manual)
    Daya: _____ Watt / Merek: _____
12. Berapa lama Anda menggunakan pompa air per hari? _____ menit/hari
13. Air PDAM hanya mengalir di waktu (sepanjang hari/pagi hari/siang hari/malam hari)
14. Seberapa sering air PDAM mati di rumah Anda? _____kali/bulan
15. Berapakah daya listrik yang terpasang di rumah Anda? _____VA
16. Berapa pengeluaran listrik rata-rata yang Anda bayar setiap bulannya?
    a. < Rp. 250.000
    b. Rp. 250.000- Rp. 500.000
    c. Rp. 500.000- Rp. 750.000
    d. > Rp. 750.000, _____
17. Bagaimana tekanan air dalam pipa PDAM menurut Anda? (Tidak Tinggi/ Kurang Tinggi/ Cukup Tinggi / Tinggi / Sangat Tinggi)
18. Kapan tekanan air di rumah Anda berada di bawah tekanan rata-rata? _____

19. Apakah di rumah Anda terdapat meteran air? (Ya/Tidak)
20. Bagaimana keadaan meteran air di rumah Anda? (Tidak Baik / Kurang Baik / Cukup Baik / Baik / Sangat Baik)
21. Apakah di rumah Anda menggunakan *water stopper*? (Ya/Tidak)
22. Jika Ya, dimanakah Anda memasang *water stopper*?
    - ☐ Tandon (Atas/Bawah/Keduanya)
    - ☐ Bak kamar mandi

C. PENYEDIAAN PERALATAN SANITER

1. Berapakah rata-rata keluarga Anda menggunakan air?
    - ☐ Minum (liter/hari)
    - ☐ Mandi (kali/hari)
    - ☐ Mencuci baju (kali/ minggu)
    - ☐ Mencuci piring (kali/hari)
    - ☐ Menyiram tanaman dengan luas taman ..... m^2 (kali/hari)
      Mencuci mobil/sepeda motor dengan jumlah mobil ..... dan sepeda motor ..... (kali/bulan)
      Alat cuci: Ember/Selang
    - ☐ Lain-lain (_____)
2. Apakah jenis kamar mandi di rumah Anda?
    - ☐ Bak/gayung (_____unit)
    - ☐ Shower (_____unit)
    - ☐ Kamar mandi umum
3. Identifikasi jumlah peralatan saniter di rumah Anda

Jenis Peralatan	Spesifikasi Peralatan	Eco Feature	Jumlah
Kran (termasuk di kamar mandi, dapur dan taman)	(Otomatis/Tidak) Merek: (Z): Flowrate: L/menit		
Urinoir / Bidet	Merek: (Flush/No Flush)		
WC	(rangkok/Duduk) (Flush/No Flush) (Single Flush/Double Flush) Single Flush: L/flush Double Flush: dan L/flush Merek:		
Shower	Merek: Flowrate: L/menit		
Wastafel	Merek:		
Jet washer	Merek: Flowrate: L/menit		
Bathtub	Merek:		
Water stopper	Merek:		
Pemanas Air	Sumber energi: (Gas/Listrik/Solar Cell)		

4. Apakah Anda tahu mengenai problematika krisis air bersih? (Ya/Tidak)
   Jika Ya, menurut Anda apa penyebab problematika krisis air bersih?
    - ☐ Perubahan iklim
    - ☐ Pencemaran air
    - ☐ Penggunaan air berlebih
    - ☐ Ketidakseimbangan jumlah penduduk
5. Apakah upaya yang dapat Anda lakukan untuk mencegah terjadinya krisis air bersih?
    - ☐ Mengubah perilaku menjadi hemat air
      Contoh:_____
    - ☐ Mengganti peralatan saniter dengan peralatan eco saniter yang lebih hemat air
6. Menurut Anda, apakah strategi yang sebaiknya dilakukan pemerintah dalam mengurangi pemakaian dan mengatasi permasalahan air bersih?

   _____
7. Apakah jenis *septic tank* yang Anda gunakan?
    a. *Septic tank* milik pribadi
    b. *Septic tank* komunal
    c. Tidak punya
8. Septic tank Anda menampung? buangan toilet/buangan cuci baju-piring/keduanya

D. KESEDIAAN RESPONDEN

D.1 KESEDIAAN UNTUK BERUBAH

1. Apakah selama ini Anda telah mengetahui mengenai peralatan Eco Saniter? (Ya/Tidak)
2. Apakah Anda bersedia untuk mengganti peralatan saniter di rumah dengan Eco Saniter?
    a. Ya (Lanjut No.3)
    b. Tidak (Lanjut No.4)
3. Apakah alasan Anda bersedia mengganti peralatan saniter di rumah dengan Eco Saniter? (1 paling penting hingga ..)

	Banyak orang menggunakan Eco Saniter
	Peralatan Eco Saniter mudah didapatkan
	Harga peralatan Eco Saniter terjangkau oleh masyarakat
	Pemasangan Eco Saniter memberikan dampak yang signifikan terhadap penghematan air atau energi
	Pembelian Eco Saniter mungkin mendapatkan subsidi dari Pemerintah
	Peningkatan tarif air bersih oleh PDAM
	Informasi mengenai pentingnya eco saniter mudah didapatkan
	Bebas biaya instalasi pemasangan eco saniter dari perusahaan yang bersangkutan

4. Keadaan apakah yang membuat Anda mengubah keputusan Anda di No.2 dan bersedia menggunakan eco-saniter? (1 paling penting hingga ..)

	Banyak orang menggunakan Eco Saniter
	Peralatan Eco Saniter mudah didapatkan
	Harga peralatan Eco Saniter terjangkau oleh masyarakat
	Pemasangan Eco Saniter memberikan dampak yang signifikan terhadap penghematan air atau energi
	Pembelian Eco Saniter mungkin mendapatkan subsidi dari Pemerintah
	Peningkatan tarif air bersih oleh PDAM
	Informasi mengenai pentingnya eco saniter mudah didapatkan
	Bebas biaya instalasi pemasangan eco saniter dari perusahaan yang bersangkutan

Alasan tetap tidak bersedia: _____

5. Khusus untuk reponden memilih pernyataan banyak orang menggunakan Eco Saniter pada No.4, berapa persentase tetangga di lingkungan Anda yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter?
   a. 1 - 25%
   b. 26 - 50%
   c. 51 – 75%
   d. 76 – 100%
6. Menurut Anda, peralatan Eco Saniter mudah didapatkan jika,
   a. Dijual di toko bangunan sekitar tempat tinggal
   b. Dijual di kawasan toko bangunan (seperti Baliwerti)
   c. Dijual di depo/ toko bangunan di mall (seperti Mitra 10, AJBS, dll)
7. Menurut Anda, sosialisasi penggunaan eco-saniter yang paling efektif melalui? (1 paling penting hingga ...)

	Penyediaan demo plant (demo alat)
	Penyediaan leaflet dan buku manual
	Melalui iklan yang menarik

8. Apakah di rumah Anda terdapat tangki penyimpanan air hujan (*rainwater tank*) ?
   a. Ya, Pemanfaatannya _____
   b. Tidak (Lanjut No. 9)
9. Apakah Anda bersedia untuk memasang *rainwater tank* di rumah sebagai salah satu upaya komunal untuk menjaga level air bersih di Kota Surabaya?
   c. Ya (Lanjut No.10)
   d. Tidak (Lanjut No.11)
10. Apakah alasan Anda memasang *rain water tank* di rumah sebagai salah satu upaya komunal untuk menjaga level air bersih di Kota Surabaya? (1 paling penting hingga ..)

	Terdapat informasi dan prosedur yang jelas dari pemasangan *rain water tank*
	Pemasangan *rain water tank* mendapatkan subsidi dari pemerintah atau perusahaan yang bersangkutan
	Rain water tank memberikan dampak yang signifikan terhadap penghematan air
	Peningkatan tarif air bersih oleh PDAM

11. Keadaan apakah yang membuat Anda mengubah keputusan Anda di No.9 dan bersedia memasang *rain water tank*? (1 paling penting hingga ...)

	Terdapat informasi dan prosedur yang jelas dari pemasangan *rain water tank*
	Pemasangan *rain water tank* mendapatkan subsidi dari pemerintah atau perusahaan yang bersangkutan
	Rain water tank memberikan dampak yang signifikan terhadap penghematan air
	Peningkatan tarif air bersih oleh PDAM

Alasan tetap tidak bersedia: _____

12. Menurut Anda, sosialisasi penggunaan *rain water tank* yang paling efektif melalui? (1 paling penting hingga ...)

	Penyediaan demo plant (demo alat)
	Penyediaan leaflet dan buku manual
	Melalui iklan yang menarik

13. Menurut Anda, berapa persen subsidi dari Pemerintah yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan *rain water tank*?
   a. 1 – 10%
   b. 11 – 20%
   c. 21 - 30%
   d. > 30%
14. Apakah Anda setuju dengan adanya pembatasan penggunaan air bersih di rumah guna menjaga level air bersih di Kota Surabaya? (Ya/Tidak)
15. Menurut Anda, berapa persen peningkatan tarif air bersih dari tarif saat ini yang dapat mempengaruhi keputusan Anda dalam penggunaan eco saniter atau pemasangan *rain water tank*?
   a. 1 – 5%
   b. 6 – 10%
   c. 11 - 20%
   d. > 20%
16. Apakah Anda setuju dengan adanya kenaikan tarif air bersih? (Ya/Tidak)
17. Apakah Anda bersedia untuk menghadiri sosialisasi atau pelatihan mengenai pemasangan *rainwater tank* di rumah? (Ya/Tidak)

D.2 KESEDIAAN UNTUK MEMBAYAR

1. Dengan presentase peningkatan harga berapa persen Anda bersedia membeli eco saniter untuk penggunaan air langsung (kran, shower,*jet washer*)?

Harga	Sangat Tidak Layak			Kurang Layak			Layak			Sangat Layak	
5%	0	1	2	3	4	5	6	7	8	9	10
10%	0	1	2	3	4	5	6	7	8	9	10
15%	0	1	2	3	4	5	6	7	8	9	10
20%	0	1	2	3	4	5	6	7	8	9	10
25%	0	1	2	3	4	5	6	7	8	9	10

2. Dengan presentase peningkatan harga berapa persen Anda bersedia membeli eco saniter untuk penggunaan alat penyimpan air (*bathtub, sink*, bak, wastafel, tandon)?

Harga	Sangat Tidak Layak			Kurang Layak			Layak			Sangat Layak	
5%	0	1	2	3	4	5	6	7	8	9	10
10%	0	1	2	3	4	5	6	7	8	9	10
15%	0	1	2	3	4	5	6	7	8	9	10
20%	0	1	2	3	4	5	6	7	8	9	10
25%	0	1	2	3	4	5	6	7	8	9	10

3. Dengan presentase peningkatan harga berapa persen Anda bersedia membeli eco saniter untuk penggunaan pendukung air buangan (toilet, urinoir)?

Harga	Sangat Tidak Layak			Kurang Layak			Layak			Sangat Layak	
5%	0	1	2	3	4	5	6	7	8	9	10
10%	0	1	2	3	4	5	6	7	8	9	10
15%	0	1	2	3	4	5	6	7	8	9	10
20%	0	1	2	3	4	5	6	7	8	9	10
25%	0	1	2	3	4	5	6	7	8	9	10

4. Dengan presentase peningkatan harga berapa persen Anda bersedia membeli eco saniter untuk penggunaan energi (*water heater*, pompa)?

Harga	Sangat Tidak Layak			Kurang Layak			Layak			Sangat Layak	
5%	0	1	2	3	4	5	6	7	8	9	10
10%	0	1	2	3	4	5	6	7	8	9	10
15%	0	1	2	3	4	5	6	7	8	9	10
20%	0	1	2	3	4	5	6	7	8	9	10
25%	0	1	2	3	4	5	6	7	8	9	10

Terima kasih atas kesediaannya mengisi kuisioner ini ☺

Tanda tangan responden

Nama Responden:

No. HP:

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APPENDIX 4

(SPSS Result)

Crosstab of X5

Count

		X5lama			
		1	2	3	Total
Y	1	189	143	45	377
	2	22	27	14	63
Total		211	170	59	440

Chi-Square Tests of X5

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	7.203 [a]	2	.027
Likelihood Ratio	6.837	2	.033
Linear-by-Linear Association	7.084	1	.008
N of Valid Cases	440		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 8.45.

Crosstab of X6

Count

		X6lama		
		1.00	2.00	Total
Y	1	235	142	377
	2	28	35	63
Total		263	177	440

Chi-Square Tests of X6

	Value	df	sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	7.185 [a]	1	.007		
Continuity Correction [b]	6.460	1	.011		
Likelihood Ratio	7.042	1	.008		
Fisher's Exact Test				.008	.006
Linear-by-Linear Association	7.168	1	.007		
N of Valid Cases	440				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 25.34.

b. Computed only for a 2x2 table

Crosstab of X7

Count

		X7		
		1	2	Total
Y	1	283	94	377
	2	51	12	63
Total		334	106	440

Chi-Square Tests of X7

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	1.023 [a]	1	.312		
Continuity Correction [b]	.726	1	.394		
Likelihood Ratio	1.069	1	.301		
Fisher's Exact Test				.344	.199
Linear-by-Linear Association	1.020	1	.312		
N of Valid Cases	440				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 15.18.

b. Computed only for a 2x2 table

Crosstab of X8

Count

		X8														Total
		1	2	3	4	5	6	7	8	9	10	11	12	15	20	
Y	1	8	31	82	95	68	37	23	11	7	9	2	1	2	1	377
	2	4	7	8	20	9	7	3	3	1	0	1	0	0	0	63
Total		12	38	90	115	77	44	26	14	8	9	3	1	2	1	440

Chi-Square Tests of X8

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	11.450 [a]	13	.573
Likelihood Ratio	12.477	13	.489
Linear-by-Linear Association	.847	1	.357
N of Valid Cases	440		

a. 13 cells (46.4%) have expected count less than 5. The minimum expected count is .14.

Crosstab of X11

Count

		X11		Total
		1	2	
Y	1	247	130	377
	2	35	28	63
Total		282	158	440

Chi-Square Tests of X11

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	2.328 [a]	1	.127		
Continuity Correction [b]	1.915	1	.166		
Likelihood Ratio	2.273	1	.132		
Fisher's Exact Test				.156	.084
Linear-by-Linear Association	2.322	1	.128		
N of Valid Cases	440				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 22.62.

b. Computed only for a 2x2 table

Crosstab of X12

Count

		X12			Total
		1	2	3	
Y	1	189	123	65	377
	2	27	24	12	63
Total		216	147	77	440

Chi-Square Tests of X12

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1.166 [a]	2	.558
Likelihood Ratio	1.168	2	.558
Linear-by-Linear Association	.785	1	.376
N of Valid Cases	440		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 11.02.

Crosstab of X13

Count

		X13		
		1	2	Total
Y	1	147	230	377
	2	10	53	63
Total		157	283	440

Chi-Square Tests of X13

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	12.572 [a]	1	.000		
Continuity Correction [b]	11.584	1	.001		
Likelihood Ratio	14.036	1	.000		
Fisher's Exact Test				.000	.000
Linear-by-Linear Association	12.543	1	.000		
N of Valid Cases	440				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 22.48.

b. Computed only for a 2x2 table

Crosstab of X14

Count

		X14		
		1	2	Total
Y	1	329	48	377
	2	46	17	63
Total		375	65	440

Chi-Square Tests of X14

	Value	df	Asymptotic Significance (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	8.709 [a]	1	.003		
Continuity Correction [b]	7.613	1	.006		
Likelihood Ratio	7.555	1	.006		
Fisher's Exact Test				.006	.005
Linear-by-Linear Association	8.689	1	.003		
N of Valid Cases	440				

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 9.31.

b. Computed only for a 2x2 table

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APPENDIX 5

(Programming Algorithm)

```
turtles-own[
willing-to-use-esp
actual-esp ; actual value of influence
level-of-income ;; there are 3 type which is Low, Medium, and High level of
income.
level-of-awareness? ;; true and false. if true the agent have awareness about water
crisis. if false the agent hasnt have awareness.
minimum-esp ;; minimum value to change become esp
]

to setup ; creates the initial state of the simulation model

  clear-all
  setup-household
  reset-ticks

end

to setup-household ; the procedure for the initial state households
  create-turtles initial-household

    [ setxy random-xcor random-ycor
      set shape "person"

   set level-of-income

   set level-of-awareness?

   set willing-to-use-esp ( who <= initial-esp )
   if willing-to-use-esp
   [
     set actual-esp 100

     setxy random-xcor random-ycor

     set shape "person"

      ]

   assign-colour

    ]

    setup-low-income-false
```

```
    setup-low-income-true

    setup-medium-income-false
    setup-medium-income-true

    setup-high-income-false
    setup-high-income-true


end


to go ; performing the simulation as one tick per go.
 tick
if all? turtles [ color = blue ]
[ stop ]
  ask turtles [ move ]

   ask turtles [influence-process]

   ask turtles [ go-subsidi ]

   ask turtles [ go-water-bill ]

   ask turtles [ go-wtp ]

   ask turtles [ go-informasi ]

   ask turtles [ go-installment ]

   ask turtles [ go-availability ]

   ask turtles [ go-saving ]

   ask turtles [ threshold-line]

   ask turtles [assign-colour ]


end
```

```
to move ; creates the procedure for the agents to move in a given space
rt random-float 360
  fd 1

end


to assign-colour ; creates the procedure for the agents to change color if it use eco-
sanitary products
 ifelse not willing-to-use-esp
 [set color green]
 [set color blue]
end


to influence-process

 if willing-to-use-esp
  [ask turtles-on neighbors
     [ if not level-of-awareness? and level-of-income = 0 [
       set actual-esp (actual-esp + ( 0.08 * random-float 10 )) ]
     if level-of-awareness? and level-of-income = 0 [
       set actual-esp (actual-esp + (0.11 * random-float 10 )) ]


     if not level-of-awareness? and level-of-income = 1 [
       set actual-esp (actual-esp + ( 0.08 * random-float 10)) ]
     if level-of-awareness? and level-of-income = 1 [
       set actual-esp (actual-esp + ( 0.09 * random-float 10)) ]

     if not level-of-awareness? and level-of-income = 2 [
       set actual-esp (actual-esp + ( 0.05 * random-float 10 )) ]
     if level-of-awareness? and level-of-income = 2 [
       set actual-esp (actual-esp + (0.03 * random-float 10 )) ]
    ]
     ]

 end


to threshold-line

 if actual-esp > 300 [
  set willing-to-use-esp true]


end
```

```
to go-subsidi


   if level-of-income = 0 and not level-of-awareness?
    [
  if subsidi > 0 and subsidi <= 10 [ set actual-esp (actual-esp +  ( 0.21 * random-
float 10 )) ]
  if subsidi > 10 and subsidi <= 20 [ set actual-esp (actual-esp + ( 0.21 * random-
float 15 )) ]
  if subsidi > 20 and subsidi <= 30 [ set actual-esp (actual-esp + ( 0.21 * random-
float 20 )) ]
  if subsidi > 30 [ set actual-esp (actual-esp +                ( 0.21 * random-float 25
)) ]

   ]

     if level-of-income = 0 and level-of-awareness?
    [
  if subsidi > 0 and subsidi <= 10 [ set actual-esp (actual-esp + ( 0.22 * random-
float 10 )) ]
  if subsidi > 10 and subsidi <= 20 [ set actual-esp (actual-esp + ( 0.22 * random-
float 15 )) ]
  if subsidi > 20 and subsidi <= 30 [ set actual-esp (actual-esp + ( 0.22 * random-
float 20 )) ]
  if subsidi > 30 [ set actual-esp (actual-esp + ( 0.22 * random-float 25 )) ]

   ]

   if level-of-income = 1 and not level-of-awareness?
    [
  if subsidi > 0 and subsidi <= 10 [ set actual-esp (actual-esp + ( 0.17 * random-
float 10)) ]
  if subsidi > 10 and subsidi <= 20 [ set actual-esp (actual-esp + ( 0.17 * random-
float 15)) ]
  if subsidi > 20 and subsidi <= 30 [ set actual-esp (actual-esp + ( 0.17 * random-
float 20)) ]
  if subsidi > 30 [ set actual-esp (actual-esp + ( 0.17 * random-float 25)) ]
   ]

     if level-of-income = 1 and level-of-awareness?
    [
  if subsidi > 0 and subsidi <= 10 [ set actual-esp (actual-esp + ( 0.16 * random-
float 10)) ]
  if subsidi > 10 and subsidi <= 20 [ set actual-esp (actual-esp + ( 0.16 * random-
float 15)) ]
```

```
  if subsidi > 20 and subsidi <= 30 [ set actual-esp (actual-esp + ( 0.16 * random-
float 20)) ]
  if subsidi > 30 [ set actual-esp (actual-esp + ( 0.16 * random-float 25)) ]
   ]

 if level-of-income = 2 and not level-of-awareness?
    [
  if subsidi > 0 and subsidi <= 10 [ set actual-esp (actual-esp + ( 0.16 * random-
float 10)) ]
  if subsidi > 10 and subsidi <= 20 [ set actual-esp (actual-esp + ( 0.16 * random-
float 15)) ]
  if subsidi > 20 and subsidi <= 30 [ set actual-esp (actual-esp + ( 0.16 * random-
float 20)) ]
  if subsidi > 30 [ set actual-esp (actual-esp + ( 0.16 * random-float 25)) ]

   ]

     if level-of-income = 2 and level-of-awareness?
    [
  if subsidi > 0 and subsidi <= 10 [ set actual-esp (actual-esp + ( 0.17 * random-
float 10)) ]
  if subsidi > 10 and subsidi <= 20 [ set actual-esp (actual-esp + ( 0.17 * random-
float 15)) ]
  if subsidi > 20 and subsidi <= 30 [ set actual-esp (actual-esp + ( 0.17 * random-
float 20)) ]
  if subsidi > 30 [ set actual-esp (actual-esp + ( 0.17 * random-float 25)) ]

   ]



end



to go-water-bill

if level-of-income = 0 and not level-of-awareness?
[
  if increase-of-water-bill > 0 and increase-of-water-bill <= 5 [ set actual-esp
(actual-esp +   ( 0.08 * random-float 10)) ]
  if increase-of-water-bill > 5 and increase-of-water-bill <= 10 [ set actual-esp
(actual-esp +  ( 0.08 * random-float 15)) ]
  if increase-of-water-bill > 10 and increase-of-water-bill <= 15 [ set actual-esp
(actual-esp + ( 0.08 * random-float 20)) ]
  if increase-of-water-bill > 15 and increase-of-water-bill <= 20 [ set actual-esp
(actual-esp + ( 0.08 * random-float 20)) ]
```

```
  if increase-of-water-bill > 20 [ set actual-esp (actual-esp + ( 0.08 * random-float
25)) ]
     ]


if level-of-income = 0 and level-of-awareness?
[
  if increase-of-water-bill > 0 and increase-of-water-bill <= 5 [ set actual-esp
(actual-esp + ( 0.06 * random-float 10)) ]
  if increase-of-water-bill > 5 and increase-of-water-bill <= 10 [ set actual-esp
(actual-esp + ( 0.06 * random-float 15)) ]
  if increase-of-water-bill > 10 and increase-of-water-bill <= 15 [ set actual-esp
(actual-esp + ( 0.06 * random-float 20)) ]
  if increase-of-water-bill > 15 and increase-of-water-bill <= 20 [ set actual-esp
(actual-esp + ( 0.06 * random-float 20)) ]
  if increase-of-water-bill > 20 [ set actual-esp (actual-esp + ( 0.06 * random-float
25))
  ]
   ]



if level-of-income = 1 and not level-of-awareness?
[
  if increase-of-water-bill > 0 and increase-of-water-bill <= 5 [ set actual-esp
(actual-esp + ( 0.1 * random-float 10)) ]
  if increase-of-water-bill > 5 and increase-of-water-bill <= 10 [ set actual-esp
(actual-esp + ( 0.1 * random-float 15)) ]
  if increase-of-water-bill > 10 and increase-of-water-bill <= 15 [ set actual-esp
(actual-esp + ( 0.1 * random-float 20)) ]
  if increase-of-water-bill > 15 and increase-of-water-bill <= 20 [ set actual-esp
(actual-esp + ( 0.1 * random-float 20)) ]
  if increase-of-water-bill > 20 [ set actual-esp (actual-esp + ( 0.1 * random-float
25)) ]
     ]


if level-of-income = 1 and level-of-awareness?
[
  if increase-of-water-bill > 0 and increase-of-water-bill <= 5 [ set actual-esp
(actual-esp + ( 0.12 * random-float 10)) ]
  if increase-of-water-bill > 5 and increase-of-water-bill <= 10 [ set actual-esp
(actual-esp + ( 0.12 * random-float 15)) ]
  if increase-of-water-bill > 10 and increase-of-water-bill <= 15 [ set actual-esp
(actual-esp + ( 0.12 * random-float 20)) ]
  if increase-of-water-bill > 15 and increase-of-water-bill <= 20 [ set actual-esp
(actual-esp + ( 0.12 * random-float 20)) ]
```

```
  if increase-of-water-bill > 20 [ set actual-esp (actual-esp + ( 0.12 * random-float
25)) ]
    ]



if level-of-income = 2 and not level-of-awareness?
[
  if increase-of-water-bill > 0 and increase-of-water-bill <= 5 [ set actual-esp
(actual-esp + ( 0.08 * random-float 10)) ]
  if increase-of-water-bill > 5 and increase-of-water-bill <= 10 [ set actual-esp
(actual-esp + ( 0.08 * random-float 15)) ]
  if increase-of-water-bill > 10 and increase-of-water-bill <= 15 [ set actual-esp
(actual-esp + ( 0.08 * random-float 20)) ]
  if increase-of-water-bill > 15 and increase-of-water-bill <= 20 [ set actual-esp
(actual-esp + ( 0.08 * random-float 20)) ]
  if increase-of-water-bill > 20 [ set actual-esp (actual-esp + ( 0.08 * random-float
25)) ]
    ]


if level-of-income = 2 and level-of-awareness?
[
  if increase-of-water-bill > 0 and increase-of-water-bill <= 5 [ set actual-esp
(actual-esp + ( 0.06 * random-float 10)) ]
  if increase-of-water-bill > 5 and increase-of-water-bill <= 10 [ set actual-esp
(actual-esp + ( 0.06 * random-float 15)) ]
  if increase-of-water-bill > 10 and increase-of-water-bill <= 15 [ set actual-esp
(actual-esp + ( 0.06 * random-float 20)) ]
  if increase-of-water-bill > 15 and increase-of-water-bill <= 20 [ set actual-esp
(actual-esp + ( 0.06 * random-float 20)) ]
  if increase-of-water-bill > 20 [ set actual-esp (actual-esp + ( 0.06 * random-float
25)) ]
    ]

end

to go-wtp

if level-of-income = 0 and not level-of-awareness? [

  if willingness-to-pay > 0 and willingness-to-pay <= 5 [ set actual-esp (actual-esp
+   ( 0.15 * random-float 25)) ]
  if willingness-to-pay > 5 and willingness-to-pay <= 10 [ set actual-esp (actual-
esp +  ( 0.15 * random-float 20)) ]
  if willingness-to-pay > 10 and willingness-to-pay <= 15 [ set actual-esp (actual-
esp + ( 0.15 * random-float 15)) ]
```

```
  if willingness-to-pay > 15 and willingness-to-pay <= 20 [ set actual-esp (actual-
esp + ( 0.15 * random-float 10) )]
  if willingness-to-pay > 20 [ set actual-esp (actual-esp + ( 0.15 * random-float
10)) ]
 ]

if level-of-income = 0 and level-of-awareness? [

  if willingness-to-pay > 0 and willingness-to-pay <= 5 [ set actual-esp (actual-esp
+ ( 0.17 * random-float 25)) ]
  if willingness-to-pay > 5 and willingness-to-pay <= 10 [ set actual-esp (actual-
esp + ( 0.17 * random-float 20)) ]
  if willingness-to-pay > 10 and willingness-to-pay <= 15 [ set actual-esp (actual-
esp + ( 0.17 * random-float 15)) ]
  if willingness-to-pay > 15 and willingness-to-pay <= 20 [ set actual-esp (actual-
esp + ( 0.17 * random-float 10)) ]
  if willingness-to-pay > 20 [ set actual-esp (actual-esp + ( 0.17 * random-float
10)) ]
 ]


if level-of-income = 1 and not level-of-awareness? [

  if willingness-to-pay > 0 and willingness-to-pay <= 5 [ set actual-esp (actual-esp
+ ( 0.15 * random-float 25)) ]
  if willingness-to-pay > 5 and willingness-to-pay <= 10 [ set actual-esp (actual-
esp + ( 0.15 * random-float 20)) ]
  if willingness-to-pay > 10 and willingness-to-pay <= 15 [ set actual-esp (actual-
esp + ( 0.15 * random-float 15)) ]
  if willingness-to-pay > 15 and willingness-to-pay <= 20 [ set actual-esp (actual-
esp + ( 0.15 * random-float 10)) ]
  if willingness-to-pay > 20 [ set actual-esp (actual-esp + ( 0.15 * random-float
10)) ]
 ]

if level-of-income = 1 and level-of-awareness? [

  if willingness-to-pay > 0 and willingness-to-pay <= 5 [ set actual-esp (actual-esp
+ ( 0.14 * random-float 25)) ]
  if willingness-to-pay > 5 and willingness-to-pay <= 10 [ set actual-esp (actual-
esp + ( 0.14 * random-float 20)) ]
  if willingness-to-pay > 10 and willingness-to-pay <= 15 [ set actual-esp (actual-
esp + ( 0.14 * random-float 15)) ]
  if willingness-to-pay > 15 and willingness-to-pay <= 20 [ set actual-esp (actual-
esp + ( 0.14 * random-float 10)) ]
  if willingness-to-pay > 20 [ set actual-esp (actual-esp + ( 0.14 * random-float
10)) ]
```

```
 ]


if level-of-income = 2 and not level-of-awareness? [

  if willingness-to-pay > 0 and willingness-to-pay <= 5 [ set actual-esp (actual-esp
+ ( 0.13 * random-float 25)) ]
  if willingness-to-pay > 5 and willingness-to-pay <= 10 [ set actual-esp (actual-
esp + ( 0.13 * random-float 20)) ]
  if willingness-to-pay > 10 and willingness-to-pay <= 15 [ set actual-esp (actual-
esp + ( 0.13 * random-float 15)) ]
  if willingness-to-pay > 15 and willingness-to-pay <= 20 [ set actual-esp (actual-
esp + ( 0.13 * random-float 10)) ]
  if willingness-to-pay > 20 [ set actual-esp (actual-esp + ( 0.13 * random-float
10)) ]
 ]

if level-of-income = 2 and level-of-awareness? [

  if willingness-to-pay > 0 and willingness-to-pay <= 5 [ set actual-esp (actual-esp
+ ( 0.19 * random-float 25)) ]
  if willingness-to-pay > 5 and willingness-to-pay <= 10 [ set actual-esp (actual-
esp + ( 0.19 * random-float 20)) ]
  if willingness-to-pay > 10 and willingness-to-pay <= 15 [ set actual-esp (actual-
esp + ( 0.19 * random-float 15)) ]
  if willingness-to-pay > 15 and willingness-to-pay <= 20 [ set actual-esp (actual-
esp + ( 0.19 * random-float 10)) ]
  if willingness-to-pay > 20 [ set actual-esp (actual-esp + ( 0.19 * random-float
10)) ]
 ]

end

to go-informasi

  ifelse informasi = "easy-to-get"
  [ go-easy-info ]
  [ go-hard-info ]

end

to go-easy-info


  if level-of-income = 0 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.08 * random-float 10))
```

```
          ]

if level-of-income = 0 and level-of-awareness?
 [
  set actual-esp ( actual-esp + ( 0.08 * random-float 10))
          ]


 if level-of-income = 1 and not level-of-awareness?
 [
  set actual-esp ( actual-esp + ( 0.13 * random-float 10))
          ]

if level-of-income = 1 and level-of-awareness?
 [
  set actual-esp ( actual-esp + (0.09 * random-float 10))
          ]


 if level-of-income = 2 and not level-of-awareness?
 [
  set actual-esp ( actual-esp + ( 0.18 * random-float 10))
          ]

if level-of-income = 2 and level-of-awareness?
 [
  set actual-esp ( actual-esp + (0.11 * random-float 10))
          ]


end


to go-hard-info


 if level-of-income = 0 and not level-of-awareness?
 [
  set actual-esp ( actual-esp + 0)
 ]

 if level-of-income = 0 and level-of-awareness?
 [
  set actual-esp ( actual-esp + 0)
 ]
```

```
  if level-of-income = 1 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]

  if level-of-income = 1 and level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]



  if level-of-income = 2 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]

  if level-of-income = 2 and level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]

end

to go-installment

  ifelse installment-fee = "free"
  [ go-free-installment ]
  [ go-paid-installment ]

end

to go-free-installment


  if level-of-income = 0 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.13 * random-float 10))
  ]

if level-of-income = 0 and level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.19 * random-float 10))
```

```
  ]


  if level-of-income = 1 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.15 * random-float 10))
  ]

if level-of-income = 1 and level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.14 * random-float 10))
  ]



  if level-of-income = 2 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.11 * random-float 10))
  ]

if level-of-income = 2 and level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.08 * random-float 10))
  ]

end


to go-paid-installment


  if level-of-income = 0 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]

  if level-of-income = 0 and level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]

  if level-of-income = 1 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]
```

```
  if level-of-income = 1 and level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]


  if level-of-income = 2 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]

  if level-of-income = 2 and level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]



end


to go-availability
  if availability = "hard-availability"
  [ go-hard-availability ]
  if availability = "easy-availability"
  [ go-easy-availability ]


end

to go-hard-availability


  if level-of-income = 0 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]

  if level-of-income = 0 and level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]

;
```

```
  if level-of-income = 1 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]

  if level-of-income = 1 and level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]




  if level-of-income = 2 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]

  if level-of-income = 2 and level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]



end

to go-easy-availability


  if level-of-income = 0 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.10 * random-float 10))
  ]

  if level-of-income = 0 and level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.03 * random-float 10))
  ]



  if level-of-income = 1 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.08 * random-float 10))
  ]
```

```
  if level-of-income = 1 and level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.07 * random-float 10))
  ]



  if level-of-income = 2 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.08 * random-float 10))
  ]

  if level-of-income = 2 and level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.14 * random-float 10))
  ]


end









to go-saving

  ifelse significant-saving = "yes"
  [ go-yes-saving ]
  [ go-no-saving ]

end

to go-yes-saving


  if level-of-income = 0 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.18 * random-float 10))
  ]

if level-of-income = 0 and level-of-awareness?
```

```
  [
    set actual-esp ( actual-esp + ( 0.14 * random-float 10))
  ]



  if level-of-income = 1 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.15 * random-float 10))
  ]

if level-of-income = 1 and level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.19 * random-float 10))
  ]




  if level-of-income = 2 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.21 * random-float 10))
  ]

if level-of-income = 2 and level-of-awareness?
  [
    set actual-esp ( actual-esp + ( 0.22 * random-float 10))
  ]

end




to go-no-saving


  if level-of-income = 0 and not level-of-awareness?
  [
    set actual-esp ( actual-esp + 0)
  ]
```

```
 if level-of-income = 0 and level-of-awareness?
 [
   set actual-esp ( actual-esp + 0)
 ]



 if level-of-income = 1 and not level-of-awareness?
 [
   set actual-esp ( actual-esp + 0)
 ]

 if level-of-income = 1 and level-of-awareness?
 [
   set actual-esp ( actual-esp + 0)
 ]



 if level-of-income = 2 and not level-of-awareness?
 [
   set actual-esp ( actual-esp + 0)
 ]

 if level-of-income = 2 and level-of-awareness?
 [
   set actual-esp ( actual-esp + 0)
 ]


end
```

```
to-report random-float-near [center]
  let result 0
  repeat 40
  [ set result (result + random-float center) ]
  report result / 20
end
```

```
to setup-low-income-false
 ask turtles [
      if willing-to-use-esp = false and level-of-income = 0 and not level-of-
awareness?
    [
      set actual-esp 25
    ]
    ]
end

to setup-low-income-true
 ask turtles [
      if willing-to-use-esp = false and level-of-income = 0 and level-of-awareness?
    [
      set actual-esp 42
    ]
    ]
end
```

```
to setup-medium-income-false
 ask turtles [
      if willing-to-use-esp = false and level-of-income = 1 and not level-of-
awareness?
    [
```

```
    set actual-esp 33
   ]
   ]
end

to setup-medium-income-true
 ask turtles [
    if willing-to-use-esp = false and level-of-income = 1 and level-of-awareness?
   [
    set actual-esp 50
   ]
   ]
end

to setup-high-income-false
  ask turtles [
    if willing-to-use-esp = false and level-of-income = 2 and not level-of-
awareness?
   [
    set actual-esp 42
   ]
   ]
end

to setup-high-income-true
  ask turtles [
    if willing-to-use-esp = false and level-of-income = 2 and level-of-awareness?
   [
    set actual-esp 58
   ]
   ]
end
```

```
to-report %ESP
  ifelse any? turtles
  [ report (count turtles with [ color = blue ] / count turtles) * 100]
  [report 0 ]
end

to-report %normal
  ifelse any? turtles
  [ report (count turtles with [ color = green ] / count turtles) * 100]
  [report 0 ]
end
```

AUTHOR'S BIOGRAPHY

The author was born in Sidoarjo July 8th 1995 with the full name Lukman Ardiansyah. The author is the second son with two siblings. The author attended various elementary school from abroad and also in Indonesia, attended Junior High School 5 Malang followed by Senior High 3 Malang and taking his college degree in Institut Teknologi Sepuluh Nopember Surabaya majoring Industrial Engineering batch year 2013.

In College life, the author was actively involved in student activities and communities such as the manufacturing system laboratory assistant, industrial engineering games committee 2014, industrial challenge committee 2015, and external affairs department as the head of department. The author also involved in organizations outside ITS as the organizing committee president of AIESEC by the year 2015 and also as the exchange participant to Izmir, Turkey for 3 months. On the other hand, the author also involved in various trainings such as GERIGI 2013, LKMM Pra-TD, Autocad, DFMA, and QIET. Moreover, the author also became the presenter of Community and Technology camp ideas 2017 in Surabaya. The author has internship experience in aCommerce Indonesia, Jakarta for 3 months. For detail information about this research, please contact the author by email lukmanard17@gmail.com.